Testing End to End call in release D

This page describes how to demonstrate the entire flow for Non-Realtime RIC using release D.

Overview of the End to End call

Preparation

End to end call from Policy Management

End to End call from Policy Control GUI to Near-RT RIC simulator
Perform Policy Operations via Control Panel

End to end call from Enrichment Coordinator Service

Type
Create Type
Delete Type
Producers
Create Producer
Jobs
Create Job
Delete Job

Overview of the End to End call

Details of the architecture can be found from the following link: Release D

Preparation

It is recommended to use it/dep repo as it has ready to use helm charts and test data to create and populate data into nonrtric k8s deployment.

Instruction can be found in this page.

End to end call from Policy Management



End to End call from Policy Control GUI to Near-RT RIC simulator

Perform Policy Operations via Control Panel

• Open Control Panel in browser. To check which port your control panel is running, the following command can be used:

kubectl get svc -n nonrtric controlpanel						
NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE	
controlpanel	NodePort	10.111.91.199	<none></none>	8080:30091/TCP,8081:30092/TCP	168m	

In this case port for HTTP connection would be 30091 and for HTTPS 30092.

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← → C () localhost:30091	
≡ 6 Non-RT RIC Control Panel	
POLICY CONTROL	

Click on Policy Control and the screen below with policy types should open

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= 🌀 Non-RT RIC Control Panel				LIGHT CODARK
Enrichment Information Coordin	ator C			
Producers				
Producer ID		Producer types	Producer status	_
1		type1	ENABLED	
Jobs autoretresh				
Job ID	Producer ID	Type ID	Owner	Target URI
job1		type1	ricsim_g3_1	https://ricsim_g3_1:8185/datadelivery
				Hems per page: <u>10 ▼</u> 1 − 1 of 1 < < > >

• For each policy type there is a '+' icon to create a new policy of that specific type. Click on '+' icon to create new policy

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≡ (]Non-RT RIC Control Panel				LIGHT —	Odark
Policy Types C					
∧ < No Type > Description: Type with no schema Number of instances: 1					
Instance					
au8feaa88d944d919ef0e83f2172a5100		service1	6/6/2021, 8:39:28 PM	/	
Instance			Last modified		
aa8feaa88d944d919ef0e83f2172a5000		service1	6/6/2021, 8:39:28 PM	/	
^ 2 Description: STD QOS policy type Number of instances: 1 C					
Instance	Target		Last modified	Action	
aa8feaa88d944d919ef0e83f2172a5200	ric5	service1	6/6/2021, 8:39:28 PM	/	

• Choose your ric from drop-down menu and provide any arbitrary values for QoS Id, Ue Id and Priority

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\leftrightarrow \rightarrow C (1) localhost:30091/policy			
= 🕜 Non-RT RIC Control Panel			
Policy Types C			
∽ ≺ No Type ≻			
Description: Type with no schema			
Number of Instances: 1 😐 C		Create new policy instance of type 1	
Instance		Type 1 policy type	
aa8feaa88d944d919ef0e83f2172a5100		rict -	
A 1		^ Properties *	
Description: Type 1 policy type			
Number of instances: 1 💌 C		Qos Objectives	
Instance		PriorityLevel*	
aa8feaa88d944d919ef0e83f2172a5000		Scope	
A 2		Qos M*	
Description: STD QOS policy type		456	
Number of instances: 1 😑 🕑		Y JSON	
Instance	Target	Y JSON Schema	
aa8feaa88d944d919ef0e83f2172a5200	ric5	Close Submit	

- Submit the policy
 An entry to the chosen Near-RT RIC simulator console/log should appear (see, for example, kubectl logs -n nonrtric a1-sim-osc-0 in case ric1 policy was created):

127.0.0.1 - - [08/Jun/2021 11:35:20] "PUT /al-p/policytypes/1/policies/fd5f8848-575a-4dlc-887e-b16ad24b22b1 HTTP /1.0" 202 -

• Click the pen icon to modify any policy

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Policy Types C				
▲ < No Type > Description: Type with no schema Number of instances: 1				
Instance				
aa8feaa88d944d919ef0e83f2172a5100		service1	6/6/2021, 8:39:28 PM	
A 1 Description: Type 1 policy type Number of instances: 2 C				
Instance				Action
as8feas88d944d919ef0e83f2172a5000		service1	6/6/2021, 8:39:28 PM	
13f5ec8e-b105-49b6-9910-5d5e722a46c2		controlpanel	6/6/2021, 8:46:49 PM	
A 2 Description: STD QOS policy type Number of instances: 1 G				
Instance			Last modified	Action
aa8feaa88d944d919ef0e83f2172a5200	ricš	service1	6/6/2021, 8:39:28 PM	

• Modifications are submitted in the same way as in creation, and the resulting simulator log should also be same as the one we saw in creation

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Policy Types C					
No Type > Description: Type with no schema Number of instances: 1 1 C					
Instance	O 1				
aa8feaa88d944d919ef0e83f2172a5100	Type 1 policy type Properties *				
A 1 Description: Type 1 policy type Number of instances: 2 C	Qos Objectives				
lestance	5001 Scope			_	
aa8feaa88d944d919ef0e83f2172a5000 	Qcci ld * qcc5000	ue id * ue5000			/
2 Description: STD QOS policy type Number of instances: 1 C	 JSON JSON Schema Close Submit 				
aa8feaa88d944d919ef0e83f2172a5200		service1	6/6/2021, 8:39:28 PM		Action
			0/0/2021, 6/34/20 PM		/

127.0.0.1 - - [08/Jun/2021 11:39:38] "PUT /al-p/policytypes/1/policies/aa8feaa88d944d919ef0e83f2172a5000 HTTP/1. 0" 202 -

• Delete any policy by clicking the red trashcan icon

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≡ (Non-RT RIC Control Panel				Policy *
Policy Types C				72a5000 submitted
Instance				Action
aa8feaa88d944d919ef0e83f2172a5100		service1	6/6/2021, 8:39:28 PM	/ =
1 Description: Type 1 policy type Number of instances: 2 ⊕ C				
Instance			Last modified	Action
aa8feaa88d944d919ef0e83f2172a5000		controlpanel	6/6/2021, 8:49:06 PM	
13f5ec8e-b105-49b6-9910-5d5e722a46c2		controlpanel	6/6/2021, 8:46:49 PM	
A 2 Description: STD QOS policy type Number of instances: 1 ⊕ C				\bigcirc
Instance	Terget		Last modified	Action
aa8feaa88d944d919ef0e83f2172a5200	ric5	service1	6/6/2021, 8:39:28 PM	/ •

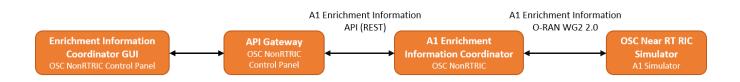
• Confirm deletion and verify the log on simulator side:

Non-RT RIC Control Panel × +		• -
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= 🐧 Non-RT RIC Control Panel		light Constant
Policy Types C		
 < No Type > 	Delete Policy	
Description: Type with no schema Number of instances: 1 T	Are you sure you want to delete this policy instance?	
_	Cancel OK	
Instance	Owner	
aa8feaa88d944d919ef0e83f2172a5100		
∧ 1		
Description: Type 1 policy type		
Number of instances: 2 😐 🕐		
Instance		
aa8feaa88d944d919ef0e83f2172a5000	controlpanel	
13f5ec8e-b105-49b6-9910-5d5e722a46c2	controlpanel	
▲ 2		
Description: STD QOS policy type		
Number of instances: 1 😐 🕑		
Instance		
aa8feaa88d944d919ef0e83f2172a5200		/ =

127.0.0.1 - - [08/Jun/2021 11:43:42] "DELETE /al-p/policytypes/1/policies/aa8feaa88d944d919ef0e83f2172a5000 HTTP /1.0" 202 -

Non-RT RIC Control Panel × +				o –
← → C () localhost:30091/policy				
🗮 🌖 Non-RT RIC Control Panel				✓ Delete succeeded!
Policy Types C				
No Type >				
Description: Type with no schema Number of instances: 1 🛃 🕑				
aa8feaa88d944d919ef0e83f2172a5100		service1	6/6/2021, 8:39:28 PM	/ 📕
Description: Type 1 policy type Number of instances: 1				
Instance	Target		Last modified	
aa8feaa88d944d919ef0e83f2172a5000		controlpanel	6/6/2021, 8:49:06 PM	/ 🔳
Description: STD QOS policy type Number of instances: 1				
Instance	Target	Owner	Last modified	Action
aa8fcaa88d944d919ef0e83f2172a5200	ric5	service1	6/6/2021, 8:39:28 PM	/

End to end call from Enrichment Coordinator Service



From the Control Panel, Producer and Jobs can only be listed.

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Enrichment Information Coordinat	or C				
Producers					
Producer ID		Producer types	<u>Pi</u>	Producer status	
1		type1	E	NABLED	
Jobs autoretresh					
Job ID	Producer ID	Type ID	Owner	Target URI	
job1		type1	ricsim_g3_1	https://ricsim_g3_1:81	85/datadelivery
				Items per page: 10 👻	1−1 of 1 < < >>

The enrichment coordinator

service is not exposed outside the k8s cluster, hence the commands for populating enrichment data need to be run from within the cluster.

In order to execute other actions such as create, modify and delete, curl can be use to interact with Enrichment Information API using NodePort from control panel.

In this example, test data is been used, so there is no real producer connected.

Туре

Create Type

```
curl -X 'PUT' \
    'http://localhost:30091/data-producer/v1/info-types/type2' \
    -H 'accept: application/json' \
    -H 'Content-Type: application/json' \
    -d '{
    "info_job_data_schema": {
        "$schema":"http://json-schema.org/draft-07/schema#",
        "title":"STD_Type1_1.0.0",
        "description":"EI-Type 1",
        "type":"object"
    }
}'
```

Response could be both 200 and 201 depending if the command was used to create a new type or to modify an existing one.

Response:

- 200 Type updated
- 201 Type created

Delete Type

```
curl -X 'DELETE' \
    'http://localhost:30091/data-producer/v1/info-types/type2' \
    -H 'accept: application/json'
```

Response:

- 204 Type deleted
- 404 Type not found

Producers

Create Producer

```
curl -X 'PUT' \
    'http://localhost:30091/data-producer/v1/info-producers/2' \
    -H 'accept: application/json' \
    -H 'Content-Type: application/json' \
    -d '{
    "info_producer_supervision_callback_url": "https://producer-stub:8093/callbacks/supervision/prod-a",
    "supported_info_types": [
        "type2"
    ],
    "info_job_callback_url": "https://producer-stub:8093/callbacks/job/prod-a"
}'
```

Response could be both 200 and 201 depending if the command was used to create a new producer or to modify an existing one.

Response:

- 200 Producer updated
- 201 Producer created

Delete Producer

```
curl -X 'DELETE' \
'http://localhost:30091/data-producer/v1/info-producers/2' \
-H 'accept: application/json'
```

Response:

- 204 Producer deleted
- 404 Producer not found

Jobs

Create Job

```
curl -X 'PUT' \
    'http://localhost:30091/data-consumer/v1/info-jobs/2?typeCheck=false' \
    -H 'accept: application/json' \
    -H 'Content-Type: application/json' \
    -d '{
    "info_type_id": "type2",
    "job_result_uri": "https://ricsim_g3_1:8185/datadelivery",
    "job_owner": "ricsim_g3_1",
    "job_definition": {},
    "status_notification_uri": "http://producer:80/"
}'
```

Response could be both 200 and 201 depending if the command was used to create a new job or to modify an existing one.

Response:

- 200 Job updated
- 201 Job created

Delete Job

```
curl -X 'DELETE' \
    'http://localhost:30091/data-consumer/v1/info-jobs/1' \
    -H 'accept: application/json'
```

Response:

- 204 Job deleted
- 404 Job not found