

Benchmark tests - 20240321

Test includes the Non-RT RIC components: Policy Management Service (aka Policy Agent), A1-Controller and A1 simulators

Tested on one Cloud VM - all components and simulators running on the same machine using docker - with the following spec: 2CPU, 4GB RAM and Ubuntu 22.04

(Note: this is a benchmark report running on EST Self service)

Each test is using 20 A1-Simulator. 7 processes are running in parallel to create/delete a total of 10000 policies (500 in each of the 20 A1-Simulator)

"REST" in the table below indicate the NB REST interface of the Policy Management Service.

"HTTP" and "HTTPS" indicate which protocol has been used between the components.

Tested with the latest available images: Thu March 21 2024

Application	App short name	Image	tag
Policy Management Service	A1PMS	nexus3.o-ran-sc.org:10002/o-ran-sc/nonrttric-plt-a1policymanagementservice	2.7.0
SDNC A1 Controller	SDNC	nexus3.onap.org:10002/onap/sdnc-image	2.5.1
SDNC DB	SDNC	nexus3.o-ran-sc.org:10001/mariadb	10.5
Control Panel	CP	nexus3.o-ran-sc.org:10002/o-ran-sc/nonrttric-controlpanel	2.5.0
NonRT-RIC Gateway	NGW	nexus3.o-ran-sc.org:10002/o-ran-sc/nonrttric-gateway	1.2.0
Near-RT RIC A1 Simulator	RICSIM	nexus3.o-ran-sc.org:10002/o-ran-sc/a1-simulator	2.6.1
Message Router stub	MR	mrstub	latest-x86_64
Callback receiver	CR	callback-receiver	latest-x86_64
Kube Http Proxy	KUBEPROXY	nodejs-kube-proxy	latest-x86_64

Test case setup	Protocol	Operation	Time (seconds)
10000 policies over REST	HTTP	Create policy	41
10000 policies over REST	HTTP	Delete policy	37
10000 policies over REST+SDNC	HTTP	Create policy	114
10000 policies over REST+SDNC	HTTP	Delete policy	100
10000 policies over REST	HTTPS	Create policy	77
10000 policies over REST	HTTPS	Delete policy	56

Timer measurement in the test script

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Activity Duration
Create 10000 polices over REST using HTTP 41 seconds
Delete 10000 polices over REST using HTTP 37 seconds
Create 10000 polices over REST+SDNC using HTTP 114 seconds
Delete 10000 polices over REST+SDNC using HTTP 100 seconds
Create 10000 polices over REST using HTTPS 77 seconds
Delete 10000 polices over REST using HTTPS 56 seconds

benchmark log:

[benchmark-20240321.tar](#)