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

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Application                  App short name  Image                                                               tag
Policy Management Service    A1PMS           nexus3.o-ran-sc.org:10002/o-ran-sc/nonrtric-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/nonrtric-controlpanel            2.5.0
NonRT-RIC Gateway            NGW             nexus3.o-ran-sc.org:10002/o-ran-sc/nonrtric-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