ONAP A&AI
Load Test Plan

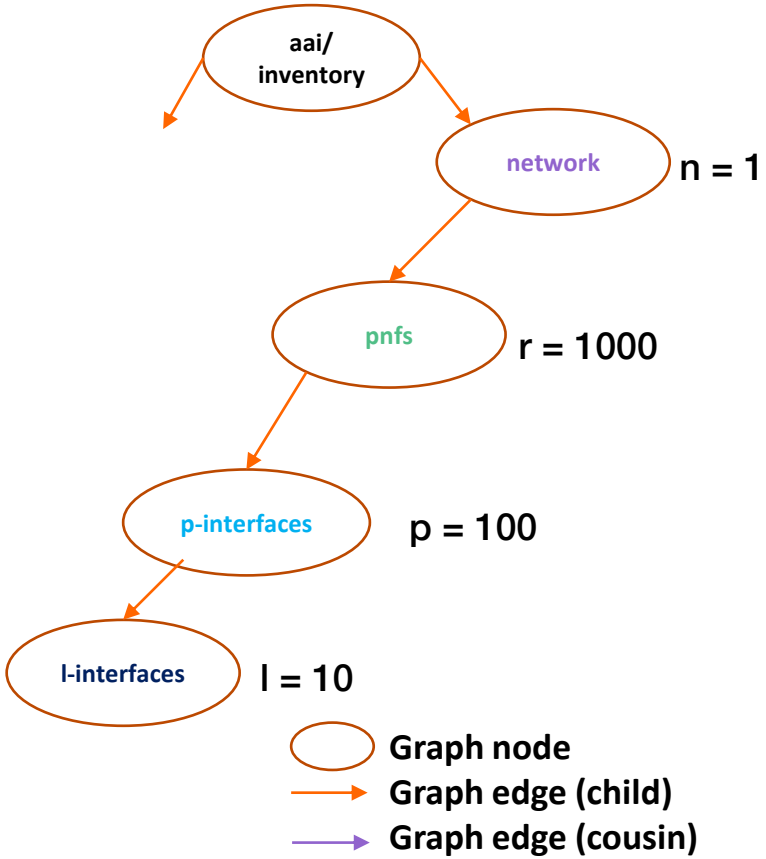
V03 – 07th of Dec. , 2021

orange™

Steps overview

1. Populate the network infrastructure
2. Populate the network services
3. Test some queries answer time
4. Test some create/update answer time, memory and CPU profiles

Step 1 – Populate the network infrastructure



Priority 1 - STEP 1.1 – IP/MPLS case

Network
- Only one network instance

PNF (Physical Network function)
- One router → one pnf instance
- 1000 routers instances

p-interfaces
- Physical interfaces of the router
- 100 interfaces per router

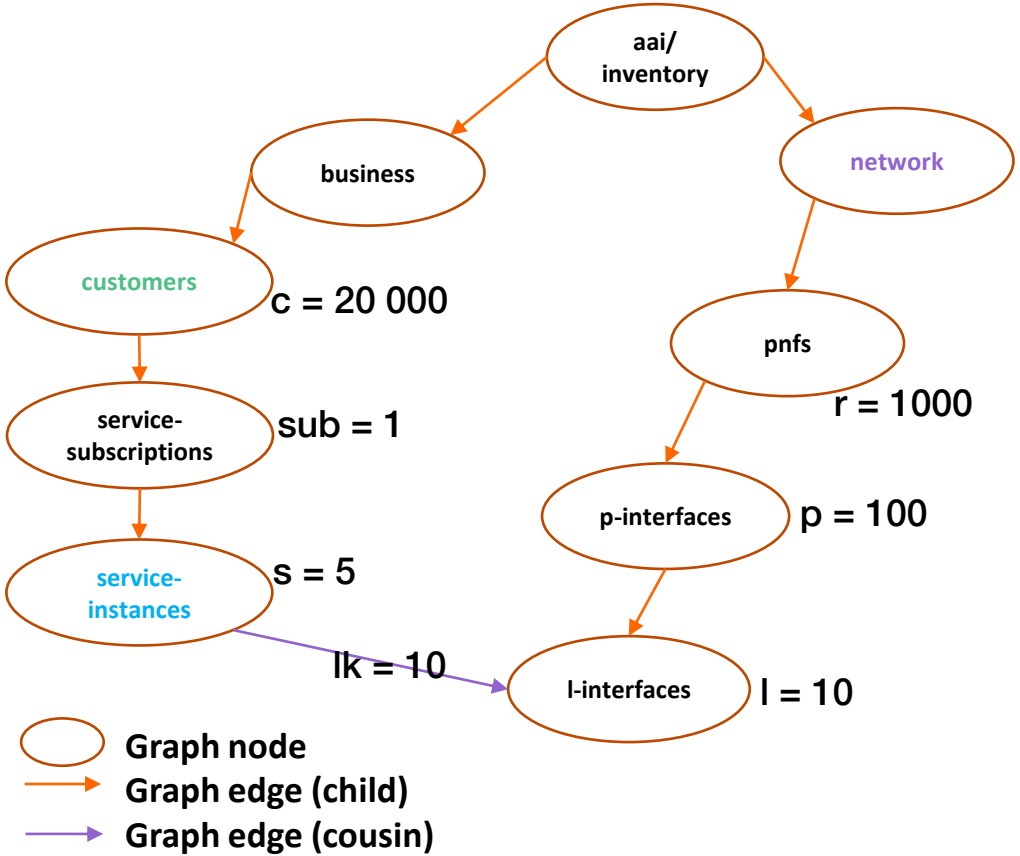
l-interfaces
- Logical (or virtual) interfaces
- 10 l-interfaces per p-interface

Total number of l-interfaces should be 1 000 000

Priority 2 - STEP 1.2 – µwave case

Same as step 1.1 but with 10.000 pnf
Total number of l-interfaces should be 10M

Step 2 – Populate the network services



Customers

20 000 instances of customer

Service instances

5 service instances per customer

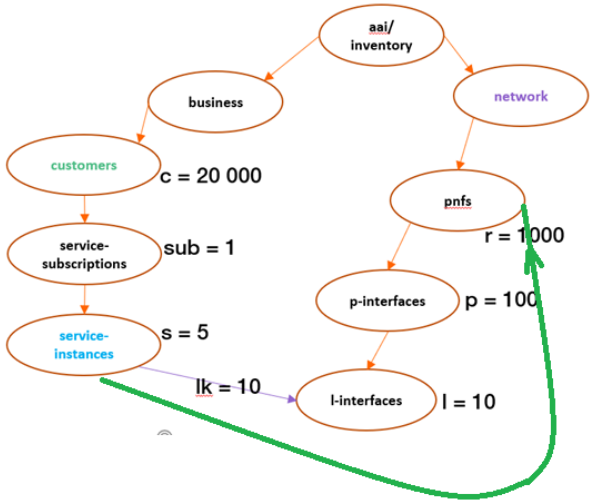
Each service instance is linked to 10 unique l-interfaces

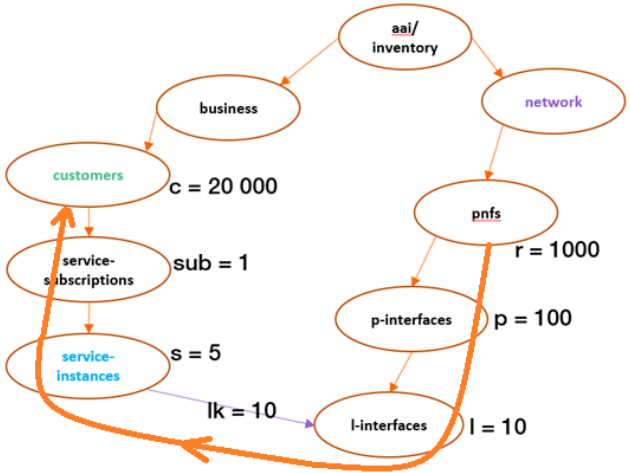
Total number of service instances: 100 000 with 1 000 000 links with l-interfaces.

Step 3 – Test some queries answer time

Q1: Provided a service instance, give all the pnf supporting the l-interfaces linked with the service instance.
Expected answer time < 100ms (if more, it is impossible to manage on-demand services)

Q2: Provided a pnf instance, give all the customer having a service linked to a l-interface hosted in the pnf.
Expected answer time < 100ms
Run 10 Q1 (or Q2) simultaneously and compare answer time to unitary queries.





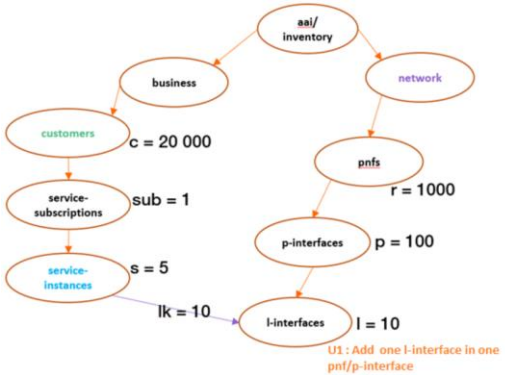
Step 4 – Test some create/update answer time

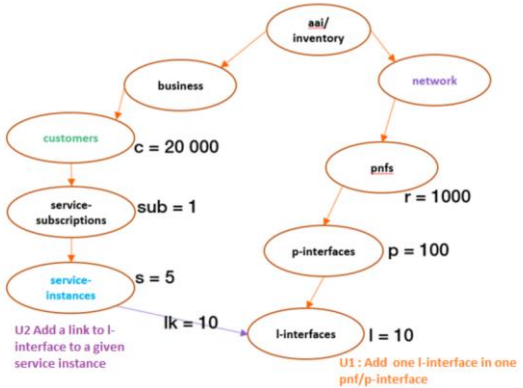
U1 (Priority 1) : Add a l-interface `l_new` in a given pnf/p-interface
U2 (Priority 1) : Add a link to `l_new` l-interface to a given service instance.

Run 10 U1 simultaneously and compare answer time to unitary queries (expected answer time < 100ms)
Run 10 U2 simultaneously and compare answer time to unitary queries (expected answer time < 100ms)

U3 (Priority 2): “can bench or profile a pnf swap“.
Create a new pnf (“pnf-b”) and related p-interfaces.
Choose another pnf (“pnf-a”), and duplicate all “pnf-a” l-interfaces in” pnf-b” (including links to services)
Delete all “pnf-a” l-interfaces and related links

Expected measured time for the global operation (not necessary in a TX).
Expected profiles of CPU, RAMs consumption.





Thank you !