VNF Benchmark-as-a-Service (VBaaS)

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VNF Benchmarking

- Different NFVI PoP/host may perform differently
- VNF development and NFVI upgrades are independent
- Orchestration needs to know how much resources (e.g., cpu, memory, storage) to allocate for given target KPI values (e.g., throughput, latency).
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**Problem to be solved:**

- Gain information *autonomously* about VNFs’ benchmark metrics with given reserved resources at a “host” (execution environment).
**VBaaS Goals**

**VBaaS aims at**
- defining complementary functional components to ETSI NFV and other approaches;
- defining interfaces to the VBaaS service;
- defining possible VBaaS work-flows.

**Work-flows**
- for ETSI NFVO and VIMs
- for recursive orchestration
Approach

Components

- **VBaaS service function**
- **VBaaS Information Base for VNF Benchmark Profiles**
  - structural
  - functional: manager, monitors and agents
- **Different APIs**
  - APIs (1) and (2) – External
  - APIs (3) and (4) – Internal
VBaaS Process Walk-through

1. Customers
2. NFVO / VNFM
3. NF-IB
4. VNF Profiles
5. VBaaS
6. VIMs
7. NFVI PoPs
8. Manager
9. Agents, Monitors and SUT VNF
10. VNF-FG
11. VNF 1
12. VNF 2

[VNF1: {10Mbps,200ms}]
{[VNF-FG, Metrics[{VCPU, mem}->{BW, delay}]]}
{VNF1: {10Mbps,200ms}}
{VNF2: ...}
Applicability to IETF/IRTF discussions

- Resource orchestration/management for NFV (NFVRG)
- DevOps (NFVRG)
- SDN for network control (SDNRG) / SFC DP for deployment
- Benchmarking methodology for VNF@NFVI-PoP (BMWG)

Related I-Ds:
- draft-rorosz-nfsvrg-vbaas-00.txt
- draft-rosa-bmwg-vnfbench
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