Methodology for VNF Benchmarking Automation

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Context, in version -05: Which were the major technical changes?

➔ Introduction: clear motivation and scope
➔ Considerations: the "Phases of a Benchmarking Test" subject to automation
➔ YANG modules: VNF-BD, VNF-PP, VNF-BR
➔ Methodology explained in details: the composition/execution of a VNF-BR
➔ Reference implementation of draft concepts - Gym: https://github.com/raphaelvrosa/gym/
Why the draft was updated?

➔ The methodology was not yet as clear as it could be
➔ VNF-BR now detains most of the needed information
➔ Address comments in the mailing-list written by Steven Van Rossem (Thanks!)
Which are the major technical changes?

➔ **Refined VNF Benchmarking Report (VNF-BR)**
  - Explained in the draft (VNF-BD and VNF-PP)
  - Methodology consists in processing VNF-BR inputs to produce VNF-BR outputs
  - Inputs: VNF-BD + variables (sample space of tests/trials)
  - Outputs: VNF-BD (sampled) + variables (sampled) + VNF-PP (output of VNF-BD execution)
  - Methodology:
    - References the Architectural Framework (defined in the draft considerations)
    - Automates the Phases of a Benchmarking Test (defined in the draft considerations)
    - Explores the input VNF-BD and variables to perform tests and trials

➔ **Draft and YANG modules**
  - [https://github.com/raphaelvrosa/vnf-bench-meth](https://github.com/raphaelvrosa/vnf-bench-meth)

➔ **Published Gym VNF-BR examples (and results in json and csv)**
  - [https://github.com/raphaelvrosa/gym/tree/master/examples](https://github.com/raphaelvrosa/gym/tree/master/examples)
Which issues are unresolved? Which issues needs further discussion.

➔ Comments by Vladimir Vassilev - Thanks :)
  ♦ Going to update YANG models

➔ Structure VNF Benchmark Report compilation of
  ♦ Useful/Summary joint information from VNF-BD and VNF-PP
    ● e.g., performance_metrics = F(traffic/workload, resources, VNF/configuration)
  ♦ Currently, Gym outputs a CSV -> Can be translated into an YANG data structure

➔ Synergies (alignment/collaboration) with BMWG related work
  ♦ Considerations for Benchmarking Network Performance in Containerized Infrastructures
  ♦ Considerations for Benchmarking Network Virtualization Platforms
  ♦ A YANG Data Model for Network Interconnect Tester Management
Final Remarks + Call for adoption request

● Considering:
  ○ Draft in version -06
  ○ Comments in mailing list adequately addressed
  ○ VNF-BD and VNF-PP modules compose VNF-BR YANG module
  ○ Methodology is being clearly stated
  ○ Reference tool implementing draft methodology (YANG modules and experimental results)

● We ask BMWG to call for the draft adoption
  ○ We have received off-list support in different forms and stakeholders
    ■ Industrial partners / collaborators
    ■ Academia: https://scholar.google.fi/scholar?oi=bibs&hl=en&cites=18378234994237256450&as_sdt=5
      https://scholar.google.fi/scholar?cites=8508100077884394238&as_sdt=2005&sciodt=0,5&hl=en
  ○ We are addressing mailing-list comments:
    ■ Thanks! Arguably all addressable towards point improvements, no major issues.
  ○ We are going move forward on refining the draft
    ■ YANG modules + Examples related to other BMWG drafts
Thank you!
References