Considerations for Benchmarking Network Performance in Containerized Infrastructure

draft-ietf-bmwg-containerized-infra-00

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Scope

- Previous **NFV benchmarking** related RFCs
  - RFC 8172: Considerations for Benchmarking Virtual Network Functions and Their Infrastructure
  - RFC 8204: Benchmarking Virtual Switches in the Open Platform for NFV (OPNFV)

- The primary scope of this document is to fill in **the gaps** of these works

when applying to containerized NFV infrastructure.

- **The consideration gaps are:**
  - Different **network models/topologies configured by Container Network Interfaces** (including the extended Berkeley Packet Filter model which was not mentioned in previous documents)

  - **Resources configuration for containers.**

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Draft Development

- **v00: March, 2019 - IETF 104**
  - Initial Proposal
- **v01: July, 2019**
  - First version after comments from IETF 104
- **v02 - v09: 2019 - 2023**
  - Self Update based on benchmarking tests from several IETF Hackathons
- **v10: March, 2023 – IETF 116**
  - Update based on **reviews from Linux Foundation ViNePERF Anuket Project** (Sridhar – Linux Foundation and Al Morton)
  - Agreed on 5 Containerized Network Models types (Kernel-space non Acceleration, User-space Acceleration, eBPF, SmartNIC, Model Combination)
  - Agreed on 4 Resources Configuration considerations (CPU Isolation/NUMA, Pod Hugepages, Pod CPU&memory, Service chaining)
  - First WG adoption call
- **v11: July, 2023 – IETF 117**
  - Update based on **reviews from IETF BMWG 116 (Gábor and Vratko)**
  - Specify Resources Configuration benchmarking parameters and remove Benchmarking Appendixes
- **v12, 13: November, 2023 – IETF 118**
  - Update based on **IETF 117 meeting comments and reviews**
  - Provide a clear Scope section (addressing the gaps of related RFC 8204 8172), and remove duplicate containerized infrastructure introduction contents
- **Adoption v0: March, 2024 – IETF 119**
  - **Adopted as WG draft**
  - Update based on **WG adoption comments**: environment setup repeatability guidance for all container networking models
- **Adoption v1: July, 2024 – IETF 120**
  - Editorial changes and nits correction
  - No more additional change requests from WG

Summary

- We didn’t receive any new reviews or change request from WG
- After 6 years of development, the draft is stable

- We would like to request Last Call.