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Network Functions Virtualisation (NFV) Release 2; Acceleration Technologies; vSwitch Benchmarking and Acceleration Specification

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Contents

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1 Scope

The present document specifies performance benchmarking metrics for virtual switching, with the goal that the metrics will adequately quantify performance gains achieved through virtual switch acceleration conforming to the associated requirements specified herein. The acceleration-related requirements will be applicable to common virtual switching functions across usage models such as packet delivery into VNFs, network overlay and tunnel termination, stateful Network Address Translators (NAT), service chaining, load balancing and, in general, match-action based policies/flows applied to traffic going to/from the VMs. The present document will also provide deployment scenarios with applicability to multiple vendor implementations and recommendations for follow-on proof of concept activities.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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The following referenced documents are necessary for the application of the present document.

[1] ETSI GS NFV 003: "Network Functions Virtualisation (NFV); Terminology for Main Concepts in NFV".

[2] IETF RFC 2544: "Benchmarking Methodology for Network Interconnect Devices".

[3] IETF RFC 7679: "A One-Way Delay Metric for IP Performance Metrics (IPPM)".

[4] IETF RFC 7680: "A One-Way Loss Metric for IP Performance Metrics (IPPM)".

[5] IETF RFC 3511: "Benchmarking Methodology for Firewall Performance".

[6] IETF RFC 4737: "Packet Reordering Metrics".

[7] IETF RFC 5481: "Packet Delay Variation Applicability Statement".

[8] IETF RFC 6703: "Reporting IP Network Performance Metrics: Different Points of View".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] IETF draft-ietf-bmwg-ipsec-term-12.txt: "Terminology for Benchmarking IPsec Devices".

[i.2] IETF draft-ietf-bmwg-ipsec-meth-05.txt: "Methodology for Benchmarking IPsec Devices".