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DRAFT NEW RECOMMENDATION ITU-T Y.2770 PROPOSED FOR APPROVAL AT THE WORLD TELECOMMUNICATION STANDARDIZATION CONFERENCE (WTSA-12)

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DRAFT NEW RECOMMENDATION ITU-T Y.2770 (FORMERLY Y.DPIREQ)

Requirements for Deep Packet Inspection in Next Generation Networks

Summary

This Recommendation specifies the requirements for Deep Packet Inspection (DPI) in Next Generation Networks (NGN). This Recommendation primarily specifies the requirements for Deep Packet Inspection (DPI) entities in NGN, addressing, in particular, aspects such as application identification, flow identification, inspected traffic types, signature management, reporting to the network management system (NMS) and interaction with the policy decision functional entity. Although aimed at the NGN, the requirements may be applicable to other types of networks. This Recommendation also contains use cases and other complementary information as appendixes.

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Requirements for Deep Packet Inspection in Next Generation Networks

1 Scope

This Recommendation primarily specifies the requirements for Deep Packet Inspection (DPI) entities in NGN, addressing, in particular, aspects such as application identification, flow identification, inspected traffic types, signature management, reporting to the network management system (NMS) and interaction with the policy decision functional entity.

This Recommendation also identifies the requirements for DPI of traffic in non-native encoding formats (e.g., encrypted traffic, compressed data, and transcoded information).

Any DPI function may be generally described by the concept of policy rules (see clause 1.2). DPI application scenarios and complementary information such as example policy rules for packet identification, policy enforcement process, policy specification languages, DPI in layered protocol architectures, and definition of terminology are given in Appendixes.

Implementers and users of the described techniques shall comply with all applicable national and regional laws, regulations and policies.

The Recommendation does not address the specific impact of implementing a distributed DPI functionality. The requirements are primarily about functional aspects of DPI, but physical aspects are also covered. In the context of functional to physical mapping scenarios, only 1-to-1 mapping and N-to-1 mapping between a DPI-FE and a DPI-PE is in scope of this Recommendation. In other words, no requirements cover distributed DPI-PEs.

1.1 Applicability

The Recommendation is applicable to the scenarios identified in Figure 1-1: