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Separation Protocol of Locator and Identifier Towards IPv6 draft-yu-v6ops-split6-00

Abstract

In the current TCP/IP architecture, the IPv6 address has a dual meaning in semantics. It not only represents the topological location of the network node, but also the identity of the node, which is usually referred to as the semantic overload problem of the IP address. The semantically overloaded IP address represents the topological position of the network, and the topological position of the network generally does not move, so the device entering the new network environment needs to replace the new identity IP to adapt to the change of the topological position. The semantic overload of IP addresses is not conducive to supporting mobility and user identity authentication, resulting in tight storage space for routing equipment, lack of unified communication identification for network equipment, and difficulties in network traceability and management. In order to solve the problem of IP address semantic overload, this project focuses on the separation technology SPLIT6 of IP address identity and location.

Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [<u>RFC2119</u>] [<u>RFC8174</u>] when, and only when, they appear in all capitals, as shown here.

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<u>1</u>. Introduction

In the current Internet architecture, the IPv6 address carries too much semantics. The network layer protocol uses the IPv6 address as the location identifier of the user terminal, and the transport layer protocol uses the IPv6 address as the identity identifier of the user terminal. This dual identity of the IPv6 address cannot satisfy the Internet's increasing mobility and security requirements.

In order to solve these problems caused by the semantic overload of IPv6 addresses, separating the location information and identity information of IPv6 addresses has become an important research direction.

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2. Security Considerations

3. IANA Considerations

This document does not include an IANA request.

4. Acknowledgements

The authors would like to acknowledge XXX for their valuable review and comments.

5. References

5.1. Normative References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", <u>BCP 14</u>, <u>RFC 2119</u>, DOI 10.17487/RFC2119, March 1997, <<u>https://www.rfc-editor.org/info/rfc2119</u>>.
- [RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174, May 2017, <<u>https://www.rfc-editor.org/info/rfc8174</u>>.

5.2. Informative References

[RFC2460] Deering, S. and R. Hinden, "Internet Protocol, Version 6 (IPv6) Specification", <u>RFC 2460</u>, DOI 10.17487/RFC2460, December 1998, <<u>https://www.rfc-editor.org/info/rfc2460</u>>.

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