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Kerberos over IPv6

Status of this Memo

Abstract

This document specifies the address types and transport types necessary for using Kerberos [RFC1510] over IPv6 [RFC1883].

Specification

IPv6 addresses are 128-bit (16-octet) quantities, encoded in MSB order. The type of IPv6 addresses is twenty-four (24).

The following addresses (see [RFC1884]) MUST not appear in any Kerberos packet:

the Unspecified Address
the Loopback Address
Link-Local addresses

IPv4-mapped IPv6 addresses MUST be represented as addresses of type 2.

Communication with the KDC over IPv6 MUST be done as in section 8.2.1 of [RFC1510].

Discussion

[RFC1510] suggests using the address family constants in <sys/socket.h> from BSD. This cannot be done for IPv6 as these numbers have diverged and are different on different BSD-derived systems. [RFC2133] does not either specify a value for AF_INET6. Thus a value has to be decided and the implementations have to convert between the value used in Kerberos HostAddress and the local AF_INET6.

There are a few different address types in IPv6, see [RFC1884]. Some of these are used for quite special purposes and it makes no sense to include them in Kerberos packets.

It is necessary to represent IPv4-mapped addresses as Internet addresses (type 2) to be compatible with Kerberos implementations that only support IPv4.

Security considerations

This memo does not introduce any known security considerations in addition to those mentioned in [RFC1510].

References

[RFC1510] Kohl, J. and Neuman, C., "The Kerberos Network Authentication Service (V5)", RFC 1510, September 1993.

[RFC1883] Deering, S., Hinden, R., "Internet Protocol, Version 6 (IPv6) Specification", RFC 1883, December 1995.

[RFC1884] Hinden, R., Deering, S., "IP Version 6 Addressing Architecture", RFC 1884, December 1995.

[RFC2133] Gilligan, R., Thomson, S., Bound, J., Stevens, W., "Basic Socket Interface Extensions for IPv6", RFC2133, April 1997.

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