IPv6, audit et migration

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RC-45   3 Days (21 Hours)

Description

The shortage of IPv4 addresses makes the need to migrate to IPv6 inevitable. This migration cannot be carried out in one piece, the coexistence of the two worlds is bound to continue. At the end of this internship, you will have learned the different migration mechanisms available as well as their fields of application.

Who is this training for ?

For whom

Engineers, network architects.

Prerequisites

Aucune

Training objectives

- Know how to implement a successful transition to IPv6 using proven techniques
- Be able to ensure application compatibility with IPv6
- Understand how to deploy enhanced routing protocols to support IPv6 and IPv4 simultaneously

Training program

Rappels des fondamentaux d'IPv6

- Types of IPv6 addresses (Unicast, Multicast, Anycast).
- The IPv6 header and the different options.
- Fragmentation management.
- Neighbor discovery (NDP).
- Practical work Activation and configuration of IPv6 on machines and routers.
- Analysis of network traces.

Les services d'infrastructure IPv6

- The DNS service.
- The record types for IPv6 addresses.
- The decorrelation between the transport protocol and the records.
- The DHCPv6 service.
- The services offered.
- Practical work Setting up DNS and DHCP services in an IPv6 network context.

Les mécanismes de transition/migration réseau

- Possible solutions.
- Dual IP stack (IPv4/IPv6), advantages/disadvantages.
- Single use of IPv6 only, advantages /disadvantages.
- Transition mechanisms and their fields of application.
- Presentation of operator solutions.
- The 6th.
- The DS-Lite.
- The NAT64 / DNS64.
- The ISATAP mechanism.
- The TEREDO protocol.
- Practical work Setting up tunnels to access IPv6 services in an infrastructure where only the IPv4 protocol is available

Introduction

- Threats specific to IPv6.
- The relationship between IPv6 and IPSec.
- The interaction of IPv6 and firewalls.
- Practical work Implementation of a filtering policy on the IPv6 network.

L'accès aux applications dans un environnement à double pile

- The principle of the "happy eyeballs approach".
- How to access IPv4 servers with IPv6 clients and vice versa.
- Balancing load with protocol translation (SLB-PT).
- The IPv4-IPv6 proxy.
- Practical work Example of making a configured service available to IPv6 clients with an IPv4 server.

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Page 2