ING4- Sécurité des Réseaux Informatiques 2019-2020

Week 4 → Week 9

Mini-Project : IPv4 scarcity, migration from IPv4 to IPv6 and security aspects with IPv6

To do : Per pair

Maximum ONE group of 3, if there is an odd number of students in the class.

Work : A document of about 5 to 10 pages, in PDF format..

Context :

In Europe, and in France in particular, we have just entered a period where there is a shortage of IPv4 addresses from regional authorities and ISPs.

Knowing this slow migration to IPv6, the new sites addressed in IPv6, in order to exchange with each other, a priori, are obliged to pass through IPv4 clouds in the Internet.

This mini-project will allow us to better understand the issues underlying the co-existence of the IPv4 and IPv6 worlds. We will also take the opportunity to review IPv6's contribution to "network security".

We will try to answer the following questions:

- What is the remaining lifetime of IPv4?
- IP configuration of workstations/servers/networking equipment during the transition?
- Communication between IPv4 (resp. IPv6) sites through a hybrid IPv4/IPv6 cloud of the Internet?
- Tunneling techniques used?
- The contribution of IPv6 to network security?
- Problems and issues that need to be addressed?

Date of submission :

Friday, February 28, 2020 at 11:55 p.m. (week 9)

Rating (/20) :

- 13 points for :
  - o Technical content, problems, solutions and issues; IPv6 security contribution
- 4 points for :
  - o Clarity, structure, quality of synthesis
- 3 points for :
  - o Spelling, grammar, bibliography, care.

For work not delivered on time: -2 points for each day late.