

Networks

Introducing

Description

The first part of the course introduces the characteristics of the main network applications. The second part details the fundamental concepts associated with network design: connectivity, resource sharing, switching, quality of service, and architecture. The third part describes the architecture of local area networks, using case studies, and Ethernet networks. Illustrations of these concepts are explored in tutorials and labs.

Objectives

At the end of this module:

The student will understand and be able to explain the main concepts associated with computer networks (personal, local, and wide-area networks) and their interconnection within the Internet (TCP/IP).

They will thus be able to identify: the characteristics of the main distributed applications in networks, the different types of connectivity and addressing schemes within networks, resource sharing solutions and their impact on transfer quality (loss, de-sequencing, delay, throughput), and finally, the concepts of service, protocol, architecture, and quality of service.

More specifically, the services, functionalities, and main mechanisms of the protocols involved in the architecture of Ethernet local area networks and the TCP/IP Internet will be mastered theoretically by the end of the course.

Necessary prerequisites

Notions on operating systems and C programming.

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse