

Computer Networks



Présentation

Description

Goal : To provide the key concepts in terms of network planning and interoperability for service provision in the Internet context.

List of subjects to be presented to the students :

Introduction to networking

Layered architectures. ISO/OSI Reference Model. TCP/IP architecture. Multiplexing techniques. Circuit and packet switching.

Data transmission

Encoding and framing techniques. Error control. Retransmission schemes. Sliding window flow control. Examples of data-link protocols.

Multiple access networks

Classification of MAC protocols. Random access schemes: ALOHA, Slotted-Aloha. Carrier Sensing Schemes: CSMA, CSMA-CD, CSMACA. Token passing schemes. Ethernet. Protocols for wireless local and personal area networks: IEEE 802.11, Bluetooth, IEEE 802.15.

Routing and mobility

Taxonomy of routing techniques. Routing algorithms: shortestpath routing, distance vector routing, link state routing. Mobility management issues.