Computer Networks

University Computer Science · Vocabulary in context

Word	Example
computer networks	The internet is made of many **computer networks**.
layering /ˈleɪərɪŋ/	**Layering** splits a network into parts that each do one job.
service /ˈsɜːvɪs/	Each layer gives a **service** to the layer above it.
encapsulated	Data is **encapsulated** with a new header at each layer.
physical /ˈfɪzɪkl/	The **physical** layer sends bits as electrical or light signals.
link /lɪŋk/	The **link** layer sends frames between neighbouring devices.
network /ˈnetwɜːk/	A **network** connects computers so they can share data.
transport /ˈtrænspɔːt/	The **transport** layer connects programs on different computers.
application	The **application** layer includes HTTP and email. HTTP
MAC address /mæk əˈdres/	A **MAC address** identifies a network card.
CRC	A **CRC** checks whether a frame was damaged on the way.
TTL	The **TTL** goes down by one at each router, so lost packets disappear.

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IP address /ˌaɪ ˈpiː əˈdres/	An **IP address** identifies a device on a network.
routing table /ˈraʊtɪŋ ˈteɪbl/	The router looks in its **routing table** to choose a path.
longest prefix match	**Longest prefix match** picks the most exact route.
UDP /ˌjuː diː ˈpiː/	**UDP** is fast but does not check that packets arrive.
TCP /ˌtiː siː ˈpiː/	**TCP** makes sure every packet arrives.
three-way handshake	TCP opens a connection with a **three-way handshake**. TCP
DNS /ˌdiː en ˈes/	**DNS** turns a name like example.com into an IP address. example.com
HTTP /ˌeɪtʃ tiː tiː ˈpiː/	A web browser uses **HTTP** to get web pages.
status codes	HTTP **status codes**, such as 404, tell you what happened. HTTP (404)
symmetric /sɪˈmetrɪk/	The path of the ball is **symmetric**: it goes up and comes down the same way.
asymmetric /ˌeɪsɪˈmetrɪk/	**Asymmetric** encryption uses a public key and a private key.
TLS /ˌtiː el ˈes/	**TLS** keeps your bank website safe.
MAC /mæk/	A **MAC** uses a secret key to show a message has not been changed.
distributed system	A **distributed system** runs on many computers that work together.

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partial failure	In a **partial failure**, some computers stop while others keep working.
idempotence	**Idempotence** means doing something twice has the same effect as doing it once.
happens-before	**Happens-before** shows which event must come first.
Lamport clock	A **Lamport clock** gives each event a counter to put events in order.
confidentiality /ˌkɒnfɪˌdenʃiˈæləti/	**Confidentiality** means only the right people can read the data.

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