Computer Systems and Networks

AP Computer Science Principles · Vocabulary in context

Word	Example
Internet /ˈɪntənet/	The **Internet** connects computer networks all over the world.
network /ˈnetwɜːk/	A **network** connects computers so they can share data.
packets /ˈpækɪts/	The file is sent as many **packets**.
destination	Each packet carries the address of its **destination**.
Protocols /ˈprəʊtəkɒlz/	**Protocols** are rules that let devices talk to each other.
routes	IP **routes** each packet towards its destination. IP
Redundancy /rɪˈdʌndənsi/	**Redundancy** means having extra paths, so the network still works if one fails.
fault-tolerant /fɒlt ˈtɒlərənt/	A mesh network is **fault-tolerant**: it still works if one link breaks.
open	The Internet is **open**: anyone can use its standards.
scalable	A **scalable** system keeps working as it grows.
standards	Shared **standards** let different devices communicate.
devices	Phones, laptops and smart TVs are all **devices** on the Internet.
Bandwidth /ˈbændwɪdθ/	Higher **bandwidth** means faster downloads.

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computing device	A phone is a **computing device**.
computing system	A **computing system** is devices and programs working together.
computer network	A **computer network** connects devices so they can share data.
path /pæθ/	A **path** is a chain of connected devices from sender to receiver.
router /ˈruːtə/	A **router** sends packets between networks.
data stream	Information travels as a **data stream**, split into chunks.
metadata /ˌmetəˈdeɪtə/	A photo's **metadata** includes the date and place it was taken.
reliable /rɪˈlaɪəbl/	Customers want a **reliable** car that does not break down.
layered	In a **layered** design, each layer does one job.
latency /ˈleɪtənsi/	High **latency** makes online games lag.
bits /bɪts/	A byte is made of eight **bits**.
World Wide Web /wɜːld waɪd web/	The **World Wide Web** is all the web pages on the internet.
reliability /rɪˌlaɪəˈbɪlɪti/	Getting similar results again and again shows **reliability**.
backup route	If one link fails, packets take a **backup route**.

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single point of failure /ˈsɪŋgl pɔɪnt ɒv ˈfeɪlɪə/	A link with no backup is a **single point of failure**.
Sequential computing /siːˈkwenʃl kəmˈpjuːtɪŋ/	In **sequential computing**, steps run one after another.
Parallel computing /ˈpærəlel kəmˈpjuːtɪŋ/	**Parallel computing** runs many steps at the same time.
processors /ˈprəʊsesəz/	A parallel solution runs on several **processors** at once.
Distributed computing /dɪˈstrɪbjuːtɪd kəmˈpjuːtɪŋ/	In **distributed computing**, many connected computers share the work.
speedup /ˈspiːdʌp/	The **speedup** is the old running time divided by the new one.
interoperate	Open standards let devices from different makers **interoperate**.
scalability /ˌskeɪləˈbɪlɪti/	**Scalability** means the system can grow when more users join.
central control	Independent networks share traffic without a single **central control**.
digital divide /ˈdɪdʒɪtl dɪˈvaɪd/	The **digital divide** means some people have no computer or internet at home.
encryption /enˈkrɪpʃn/	**Encryption** makes the message unreadable to others.
authentication /ɔːˌθentɪˈkeɪʃn/	A password is a kind of **authentication**.
IP address /ˌaɪ ˈpiː əˈdres/	Every device on the internet has an **IP address**.

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