

4.2 Network Environments

Syllabus 2026 - 2028

WHAT YOU NEED TO KNOW

- The characteristics, uses and purpose of an internet, an intranet and an extranet
- The differences and similarities between the internet, an intranet and an extranet

The internet

The **internet** is a huge worldwide network of connected networks. It is public, and anyone with a device and an internet connection (through an internet service provider, ISP) can use it. The World Wide Web, email and video calls are services that run on the internet.

- **Characteristics:** worldwide, public, not owned by one organisation, content from anyone, little control over what is published
- **Uses:** browsing websites, email, social media, online shopping and banking, streaming, cloud storage, research
- **Purpose:** to let people and organisations share information and communicate across the world

An intranet

An **intranet** is a private network inside an organisation, such as a school or company. It uses the same technology as the internet (web browsers and web pages) but only people inside the organisation, such as staff or students, can use it, normally after logging in.

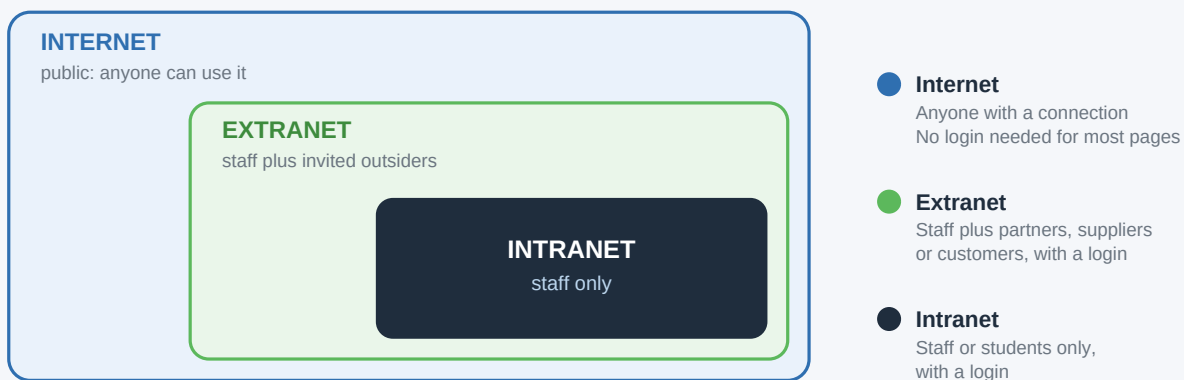
- **Characteristics:** private, protected by a firewall and passwords, content controlled by the organisation, available only to members
- **Uses:** internal email and messaging, shared documents and policies, staff directory, timetables, school learning platform and marks, company news
- **Purpose:** to share information and let members work together safely, in a way that is secure and relevant to the organisation

An extranet

An **extranet** is part of an organisation's intranet that is made available to selected people outside the organisation, such as suppliers, customers, partner companies or parents. They need a login and can only see what the organisation allows.

- **Characteristics:** private, controlled access for chosen outsiders, protected by logins and a firewall
- **Uses:** suppliers checking stock and orders, customers tracking deliveries, partner companies sharing project files, parents viewing a child's results
- **Purpose:** to let the organisation share certain information safely with partners and customers

Figure 5: Who can use the internet, an extranet and an intranet



Comparing the three environments

	Internet	Intranet	Extranet
Who can use it	Anyone with a connection	Members of the organisation only	Members plus chosen outsiders
Login needed?	Not for most sites	Yes	Yes
Owned by	No single owner	The organisation	The organisation
Security	Low by default; users must protect themselves	High, behind a firewall	High, with controlled access
Content	From anyone, little control	Controlled by the organisation	Controlled by the organisation
Size	Worldwide	One organisation	One organisation plus its partners
Example	A news website	A school's staff portal	A supplier's order system

- **Similarities:** all use internet technology such as web browsers, web pages and web servers; all let users share information and communicate; intranets and extranets can be reached over the internet
- **Differences:** who can access them, who owns and controls the content, how secure they are, and how large they are

Intranet compared with the internet

Advantages	Disadvantages
+ More secure, because only authorised users can enter	- Costs money to set up and maintain
+ Information is controlled, so it is relevant and reliable for the organisation	- Limited to the organisation's own information
+ Cannot be reached by outsiders, so less risk of hacking	- Needs staff to manage, update and secure it
+ Members can share files and work together	- Users cannot reach the wider information on the internet through it alone

EXAM TIP

A frequent mistake is to say an intranet is 'a small internet'. Say that it is **private** and used only by **members of one organisation**. An extranet is the same, extended to **selected outsiders**.

Key terms

Term	Meaning
Internet	A worldwide public network of networks.
World Wide Web	Web pages accessed through the internet; one of its services.
ISP	Internet service provider; supplies the internet connection.
Intranet	A private network used only inside an organisation.
Extranet	Part of an intranet shared with chosen outsiders.
Firewall	Software or hardware that blocks unauthorised access.
Login	A username and password that prove who the user is.
Authorised user	Someone allowed to access the network.