

Key Terms Networking

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| Network | A group of devices connected together, either wirelessly or with a network cable. |
| Protocol | A set of rules |
| Network cable | Used to connect different devices together. They are often made up of a number of wires. |
| Hub | Connects a number of computers together. Ports allow cables to be plugged in from each connected computer. |
| Server | A powerful computer which provides services to a network |
| Router | Used to connect two separate networks together across the internet |
| Wired | Wired networks send data along cables. |
| Wireless | Wireless networks send data through the air using radio waves |
| 3G /4G /5G | Wireless communications standards designed to provide different speeds for mobile devices, such as smartphones, tablets, and wireless hotspots |
| WiFi | A facility allowing computers, smartphones, or other devices to connect to the Internet or communicate with one another wirelessly within a particular area. |
| Bandwidth | Bandwidth is the amount of data that can be moved from one point to another in a given time. |
| Broadband | A high-capacity transmission technique using a wide range of frequencies, which enables a large number of messages to be communicated simultaneously. |
| Data capacity | How much data the storage type can hold, measured in bits |
| Buffering | In streaming audio or video from the Internet , buffering refers to downloading a certain amount of data before starting to play the music or movie. |

Key Terms Internet

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|----------------------|--|
| Internet | The internet in a network of networks. |
| Internet Protocol | A set of rules governing the format of data sent over the Internet or other network. |
| IP address | A unique string of numbers separated by full stops that identifies each computer using the Internet Protocol to communicate over a network. |
| VoIP | Voice Over Internet Protocol - the set of rules that makes it possible to use the Internet for telephone or videophone communication. |
| IoT | A network of Internet connected objects able to collect and exchange data |
| Spam | Irrelevant or unsolicited messages sent over the Internet, typically to a large number of users, for the purposes of advertising, phishing, spreading malware, etc. |
| WWW (World Wide Web) | Part of the internet that contains websites, web pages, and the links between them. |
| Web browser | A browser is a software application used to locate, retrieve and display content on the World Wide Web , including webpages, images, video and other files. For example Chrome / FireFox |
| Web server | A <i>web server</i> is a computer that runs websites. The basic objective of the <i>web server</i> is to store, process and deliver <i>web</i> pages to the users. |
| Web page | A hypertext document connected to the World Wide Web. |
| Search engine | A type of website that allows you to look up information on the World Wide Web. |
| URL | Uniform Resource Locator (URL) is another name for a web address |
| HTTPS | Stands for Hypertext Transfer Protocol Secure. This encrypts messages between a browser and the website so the messages cannot be understood by other devices. |
| HTTP | Stands for Hypertext Transfer Protocol. Messages are sent between a browser and a website in plain text and can be read and understood by other devices. |
| Domain Name | A domain name is a unique name that identifies a website . |

Wired versus Wireless Networks

| Advantages of a wired network | Disadvantages of a wired network |
|---|---|
| Faster connection (little to no interference) | Cables can be a trip hazard and look unpleasant |
| Higher bandwidth | More expensive and time-consuming to add devices, as each device needs cables |
| Better security | Devices are in fixed positions |

| Advantages of wireless network | Disadvantages of wireless network |
|---|--|
| No trailing/trips/hazards | Lower bandwidth |
| It is quick and cheap to connect to new devices | Wireless connections can be weakened by walls and ceilings |
| Allows portability | Less Secure |

Network Protocols

| Layer | Protocols in this layer cover | Protocol Examples |
|-------|---|--|
| 1 | Passing data (as electrical signals) over the physical network | Ethernet |
| 2 | Making connections between networks and directing data | IP (Internet protocol) |
| 3 | Controlling data flow eg checking data is sent and delivered | TCP (Transmission Control Protocol) |
| 4 | Turing data into websites and other applications and vice versa | HTTP / FTP / SMTP |

Parts of a URL Address



Wired versus Wireless Networks

| | | |
|-----------------------|--|---|
| Browsers | Google Chrome Internet Explorer Safari |  |
| Search engines | Google Bing |  |
| Websites | bbc.co.uk youtube.com |  |



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