

Topic 2: Communication

Keyword sheet - Cambridge AS & A Level Computer Science 9618. Tick each term once you can define it from memory.

Keyword	Definition	Know it?
LAN / WAN	Local area network: restricted geographical area, owner-managed / wide area network: large area, often using public or leased infrastructure.	
Client-server	Architecture where clients request services from a central server that manages resources and security.	
Peer-to-peer (P2P)	Architecture where each computer acts as both client and server and shares resources directly.	
Bus / star / mesh / hybrid topology	Network layouts: single shared backbone / central switch / each node connected to many others / combination.	
Wi-Fi	Wireless LAN technology using radio waves (IEEE 802.11), with WAPs providing network access.	
Bluetooth	Short-range wireless technology using radio waves for personal area networks.	
NIC	Network interface card: hardware providing a computer's connection to a network and holding a MAC address.	
MAC address	Unique 48-bit hardware identifier assigned to a NIC, used for addressing within a LAN.	
IPv4 / IPv6	32-bit (dotted denary) / 128-bit (hexadecimal) internet addressing schemes.	
Public / private IP address	Globally routable address / address valid only within a local network, usually assigned by DHCP and mapped by NAT.	
Static / dynamic IP address	Fixed, manually assigned address / address assigned from a pool by DHCP.	
Router	Forwards packets between networks using IP addresses and routing tables.	
Switch	Forwards frames to the correct device on a LAN using MAC addresses.	
Gateway	Connects networks that use different protocols and translates between them.	
Modem	Modulates and demodulates signals so digital data can be sent over analogue lines.	
Repeater / bridge	Regenerates signals to extend range / connects two LAN segments.	
DNS	Hierarchical system that resolves domain names to IP addresses.	
Cloud computing	On-demand delivery of storage, processing or software over the internet; offers scalability, accessibility and reduced hardware costs but raises dependency and security concerns.	
SaaS / PaaS / IaaS	Cloud service models providing software / a development platform / virtualised infrastructure.	
Bandwidth / latency	Data capacity of a connection per second / time delay for data to travel.	