

## Protocols

A **protocol** is an agreed format, which allows two devices to communicate. The protocol, put simply, is a set of rules. These rules can include the following:

- handshaking, where two devices establish their readiness to communicate
- how the sending device will indicate that it has finished sending a message
- how the receiving device will indicate that it has received a message
- the type of error checking to be used
- agreement on the data compression method to be used

There are many standard protocols used with computer systems. The table illustrates the protocols with which you need to be familiar:

Protocol	Description
TCP/IP	Two protocols that combine to allow communication between computer systems on a network
TCP(Transmission Control Protocol)	TCP is a protocol that allows packets to be sent and received between computer systems
IP -Internet Protocol)	IP is a protocol that sets out the format of packets and an addressing system.
HTTP (Hypertext Transfer Protocol)	HTTP is a protocol than can be used to transfer multimedia web pages over the Internet. Allows webpages to be shared across different computers and browsers.
HTTPS	A secure variant of HTTP – it works together with another protocol called Secure Sockets Layer (SSL), to transport data securely.
FTP (File Transfer Protocol)	FTP is a protocol that can be used when copying a file from one location to another via a network or the Internet. It is typically used for the transfer of large files, as it allows broken communications to resume transferring a file rather than having to restart.
Ethernet protocol	At the data link layer Ethernet protocols describe how network devices can format data for transmission using frames and packets. Ethernet protocols are also used to define standards for types of network cabling used at the physical layer and the corresponding transmission speeds.

SMTP	<p>The Simple Mail Transfer Protocol (SMTP) is used to deliver email from the sender to an email server or when email is delivered from one email server to another. SMTP can only be used to send emails but not to receive them.</p>
Wi-Fi 802.11	<p>Wi-Fi is a term for certain types of wireless networks that use 802.11 wireless protocols for transmitting data using electromagnetic waves in place of cables. 802.11 wireless networks use security protocols, such as Wi-Fi Protected Access (WPA), to provide a level of security and privacy comparable to that of a wired network. Bluetooth is another example of a wireless protocol and WAP (Wireless Application Protocol) are protocols to standardise the way that wireless devices can be used for Internet access.</p>