DATA TERMINAL EQUIPMENT (DTE):

DTE is defined as any equipment which is either a source or a location for the use of digital data. Examples of DTE include hardware such as printers, computers and routers. In order for different data terminal equipment to communicate data they need to use data circuit-terminating equipment (often referred to as DCE). An example of this being that when a user sends a file to print using a wireless printer, the data would be communicated to the printer via a DCE which therefore allows the printer the data it needs in order to print what the user requires.

DATA CIRCUIT-TERMINATING EQUIPMENT (DCE):

DCE is defined as any equipment which is located within a network which handles the transmission or receives data through a network. They often receive and transmit data which is created by Computers (an example of a DTE), an example of this being a modem, the role of a modem is to translate signals and allow them to be transmitted over a network. Other examples of DCE equipment include network interface cards (commonly known as network cards or NIC) or satellites.

THIRD GENERATION (3G):

3G is an example of mobile telecommunications technology and is used by computers, mobile phones and a variety of portable devices such as tablets etc. and allows them to connect wirelessly to the internet. This technology is improving all of the time, this is shown by the newly released 4G which is achievable by new smart phones. The average speed available on 3G in the UK is 6.1MBPS, however this is dependent upon the network strength and location. The common uses for 3G is for downloading apps, the use of social media, for the use of streaming live TV and the use of Global positioning system (GPS).

GENERAL PACKET RADIO SERVICES (GPRS):

GPRS stands for general packet radio services, this is defined as a wireless communication services which can be used by computer and mobile phone users which allows them to access internet speeds of 56-114 kbps. The use of this service is available on both 2G and 3G networks, and is priced based upon the amount of data transferred. The general internet speed using this method is very slow, and this causes being not use this service because of
slow the data is gathered, because it doesn’t suit the needs of the public is has become rarely used, this is also because of the advances in other methods such as the development of 3G and 4G.

MOBILE PHONES:

Mobile phones have become a very popular communication device, this is shown by research indicating that 90% of people over the age of 18 in the UK currently own a mobile phone. Mobile phones work by allowing the user to connect to a cellular network (Vodafone for example) which allow the phone access to the public phone network therefore allowing them to make calls/receive text messages. Mobile phones also offer other types of communication, these include email (if using 3G etc.) and short range communication techniques in which files etc. can be transferred. These include the use of Bluetooth and inferred, however some of these features are only available on smart phone.

LAPTOPS:

Laptops are defined as portable computers which are made for portable use. Laptops contain a screen, a keyboard and a mouse (trackpad or trackball). Unlike desktop computers, laptops operate due the use of a battery and come with a charger. In the past laptops has suffered performance wise in comparison to desktops, however due to recent advances in technology the performance and capability of laptops has vastly improved to the point where some laptops run very similar to the desktop computers. Laptops now also include I/O (such as USB (Universal Serial Bus) etc.) These therefore allow conventional keyboards and mice.

NETBOOKS:

A netbook is defined as a small, low power computer and is designed for the use of word processing, wirelessly connecting to the internet and running web browsing applications such as Google etc. Netbooks are much smaller than full-sized laptops and do therefore not do same the same processing power therefore worsening performance. Netbooks are generally cheaper than full sized laptops and weigh considerably less, weighing around 2-3 pounds.

COMPARISON OF THE EFFECTIVE OF DATA TRANSFER OVER BOTH WIRELESS AND WIRED NETWORK:

Limited area networks (LAN) can be set to function with the use of the wires (often contains routers, hubs switches etc.) or to be used wirelessly. Each has their advantages, but who their disadvantages.

Wired LANs required the use of Ethernet cables with run from each of the computers to the central device, a disadvantage of this is that this can be time consuming to set up especially if different users
within a household for example are on different levels, this is because this would require cable to run through floors and walls. This is the opposite of a wireless LAN because this allows the connection to be made wirelessly therefore meaning that the installation is relatively hassle free. Despite needing more equipment during the installation process, setting up a Wired LAN remains cheaper than buying a broadband router required for a wireless LAN. After the installation process occurs Wired LANs are the most reliable of the pair, this is because the technology needed for is continually improving and therefore the results improve, Wired LANs also offer a better performance this is because there is less can infer with the connection and therefore makes it stronger. Broadband Routers having improved in reliability, and will continue to do due to upgrades in technology, despite this they remain behind Wired LANs in this area will continue to do so. For Wired LANs firewalls are a primary security concern, this is because Ethernet hubs and switches do not support firewalls, meaning that they are target for hackers. Most Broadband routers often come with firewall capabilities built into the devices which gives them the edge in this area.