

IT 201 Assignment #7

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Principle technologies and trends are so common among most people that many of us do not realize their significance. Principle technologies of most households consist of a router which is a communication processor. This allows users in the household to obtain an internet connection. One of the communication trends that blend well with the principal technologies is convergence. Convergence is described as telephone networks and computer networks converging into a single digital network using internet standards, like a router. Broadband is another trend that allows users to run 3 to 20 megabits per second in a household or office building. Then finally we have an upgraded version of broadband which is named broadband wireless. This essentially follows the same orientation as broadband but it is entirely wireless. This includes voice and data communications. This will eventually be the norm in the next decade. Principle technologies and trends are foundational blocks of how we operate as a society.

There are two distinct types of signals when it comes to internet traffic and those are analog and digital signals. An analog signal is shown by a continuous waveform that passes through a communication that is normally used for audio communications such as phone calls. Digital signals are defined as less readable because it is in a binary waveform. Instead of having a visual representation of an analog waveform digital waveforms are simply ones and zeros. With these types of signals, they can create networks that can transfer and decipher them. Those being LAN, MAN, and WAN. A LAN or normally referred to as a local area network is created for personal computers to be connected to other devices over a short distance. MAN is also another acronym that stands for metropolitan area network. This is a larger version of LAN that spans the area of cities, towns, and major suburbs. Then after MAN, we have WAN which is an even larger area network that is across regions, states, and even continents. This is the technical term when people use the term world wide web, this can only be accomplished through WAN connectivity.

To put it simply the internet is difficult to live without because it provides a lot of things that were available before but are not as convenient as now. It is a public communication network that brings together all of us across the globe with near-instantaneous results. The internet works off of protocols that describe information in packets that computers read to each other. It provides business value that could have never been achieved eighty years ago, through communication and productivity. We can now network employees' countries apart instantly and receive instant responses. We also now have internet programs that can calculate complicated algorithms instantly that would have taken hours to compute. One of the principal services of the internet is one all of us are familiar with and that is an email which is described above. The internet revolutionize humanity to unify communications around the world.

Wireless computer networks exist all around us. This can be found in our own houses, phones, and cars. One of these many of us are familiar with is Bluetooth which is a personal area network that is smaller than LAN described above. It connects devices within a smaller range to each other to transmit information. Normally it is used for radio-based communications. Wi-Fi is also something that most people are familiar with and this is wireless internet access in a LAN network. The range of Wi-Fi is larger than Bluetooth so it can support more devices and transmit more information between devices and personal computers. WiMAX is the next step up and

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stands for World Wide Interoperability for microwave access. These are antennas that are powerful signal pushers that can be received miles away. 5G networks are similar to WiMAX but can be used for smartphones away from an internet connection. This is done by data plans to allow users to still have a wireless internet connection without connecting to a specific WIFI or LAN.

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