

# Wireless networks and pervasive computing

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Transmission Control Protocol (TCP) and User Datagram Protocol (UDP) are internet protocols that have different uses. I have chosen these tutorials because they have a lot of information I would like to know. As defined by Kozierok (2005), TCP is an internet protocol that requires connection and is the most commonly used because it provides error correction. It can make a connection from client to server resulting to instant delivery. When using TCP, the computer sending data connects with the one receiving the data, and remains connected for some time until the data is sent correctly and safely, and then they disconnect. This method has several advantages such as it is reliable, it is ordered, and it is heavy weight (Kozierok, 2005). It is reliable in that any message sent along it, arrives safely unless there is a problem with the connection. Also, when two messages are sent along a connection, the first message arrives first and ordered. However, if messages arrived in the wrong order, resend requests must be sent, which requires a lot of effort to put together.

UDP is also a commonly used the message-based internet protocol that does not require any connection (Kozierok, 2005). According to Kozierok (2005), UDP is not be used to send crucial data like database information and web-pages, but for streaming video and audio. It is faster than TCP; hence, it is used in streaming media like real player, and Media audio files. Its speed is higher than that of TCP because it does not require any error correction or flow control. However, it is quite unreliable because the data sent along it is likely to be affected by errors and collision. Also, it is not ordered because messages sent can arrive in any order. Unlike the TCP, UDP is lightweight

because it does not track its connections or order messages; hence, little effort is required to translate the data back from the packets (Reid and Lorenz, 2008).

All computers, which are connected to the internet, must have an IP address. This is a unique number that is assigned to all computers as a means of recognizing a certain computer from others that are connected to the internet. When information is sent to a computer, it is accepted through the use of TCP/UDP ports. It is highly essential in business in order to ensure the data sent reaches its destination safe and in proper order. What happens is, when a computer program sends or receives data via the internet, it sends this data to an IP address and a certain port on the remote computer, and then it receives the data on a random port on its own computer (Reid and Lorenz, 2008).

If the program uses the TCP protocol to send and receive data, it connects and binds to a TCP port, but if it uses the UDP protocol, it will use the UDP port (FitzGerald and Dennis, 2008). FTP server is a server that helps to transfer and receive files from remote computers, on the same web server (FitzGerald and Dennis, 2008). It uses TCP ports 20 and 21 to send and receive information so as to prevent conflicts with the web server running on TCP port 80. Hence, after binding to TCP port 20 and 21, FTP server usually waits for connections so as to send and receive data.

Therefore, TCP and UDP are essential in business because they help to transfer and receive data through the internet, which makes business easy to manage. Moreover, when exploring the tutorials, I learnt about the significance of technology and its application in business. I learnt how the

TCP and UDP ports work with the IP addresses.

#### References

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