Communication Protocol Analysis

 Name:

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### Communication protocols that will be used at AT&T and justification of the selection of these protocol(s)

### Transmission control protocol

###  This is a protocol used to facilitate the exchange of messages between the computing devices in a network. It is one of the protocols that will be employed by AT&T company. The process involves taking messages from the application server and dividing them into packets that are then forwarded to the destination by the switches, routers and security gateways (Leung, 2016). The transmission control protocol will number each packet and reassemble them before handing them to the server recipient. The connection will be established and maintained to the moment the exchange between the server sending and receiving the message is complete.

###  At AT&T company, this will be deployed in emails. The transmission control protocol in that layer in the server will divide the message into several packets where they will be numbered and then forwarded to the IP layer for transport. At the IP layer, each packet will be transmitted to the destination email server.

###  The communication protocol will play well in the expansion area of functionality of AT&T. As the company plans to host its infrastructure externally and internally, data will need to transmitted. Data transmission will also be needed to enhance the performance of the company and administration. When data is transmitted in a smooth manner, without hitches and in record time, the performance and administration of AT&T will become easier. AT&T will use TCP known as intranet mostly for dissemination of internal information that is confidential to staff only.

### User Datagram Protocol

###  This is a transport layer protocol and will be a substitute to transmission control protocol. It will principally be utilised for instituting low latency and loss allowing connections among uses on the internet. This protocol will enable process-to-process communication. It will enable sending of messages known as datagrams, also provide error, and control flow. This protocol is connectionless since it will not need a virtual circuit establishment prior to data transfer occurring. Some of the advantages that AT&T will enjoy from this protocol include; the allowing of packets to be let go and be received in a dissimilar order than they were conveyed (Forouzan, 2010). It will enable the company connect a big sum of clientelle and allow for services like streaming and video conferencing in an easier manner. It will also enable the functionality on expansion, performance, visibility and administration of the company. UDP will enable AT&T have a delay free and fast communication mostly due to lack of connection set up.

### File Transfer Protocol (FTP)

### This protocol is utilized in transferring files or exchanging them with the host computer (Simpson & Lynda.com, 2014). User names and passwords are used for authentication. AT&T will need this protocol to enhance the performance functionality. Ease of administration, expansion and security. File transfer protocol has been in existence for a long time so the company may not experience problems with interoperability. It is highly likely that trading partners of AT&T will be exchanging information through this platform.

### Internet Control message protocol (ICMP)

###  This is used for error reportage. It creätes memoranda to the source IP address whenever network issues hinder conveyance of IP packets (Rhee, 2013). ICMP messages also comprise of the whole IP header from the basic message, such that the end system recognizes which packet did not materialize. ICMPA executes denial of service through directing an IP packet bigger than the number of bytes permitted by the IP protocol. ICMP also helps determine whether a destination is reachable and the duration of period it takes to reach a particular destination as well as determining the route a packet may take to reach a destination. It also informs other network to slow their rate of packet transmission. The protocol will mainly apply in the security functionality of AT&T to guarantee that there are no security breaches.

### Internet Message Access Protocol (IMAP)

###  IMAP allows principal transport layer protocols to institute host-to-host communiqué services for bids (Shannon, 2017). It permits the sending and receiving of emails via a remote server devoid of calling for support from a specific device. This will be ideal since it will ensure maintenance of communication especially for travelers from any location. It will assist in the expansion, performance, visibility and administration functionalities since the staff at AT&T can communicate from any part they are based at. The firm will be able to have several devices being allowed to work on the same account where changes made can be seen by anyone. The company will also have the advantage of searching the messages through keywords and the ability to manage local files from the server.

**References**

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