**TCP/IP Protocol Suite and Communication**

**Outcome 2 Research Task 1**

Using the notes and various search engines, describe each of the following abbreviations.

**Application Layer**

* **Name Suite**
  + DNS

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| Description: Stands for Domain Name System, it is a network of servers responsible for relating IP addresses to domain names. |

* **Host Config**
  + BOOTP

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| Description: Stands for Bootstrap Protocol, which requests an IP address from a server after booting up and loading the OS. |

* + DHCP

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| Description: Stands for Dynamic Host Configuration Protocol, it assigns IP addresses dynamically, allowing devices to change IP address each time it connects. |

* **Email**
  + SMTP

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| Description: Stands for Simple Mail Transfer Protocol, that transfers emails between servers, or more frequently between a client machine and a server. |

* + POP

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| Description: Stands for Post Office Protocol, it retrieves emails from a server to a client machine. |

* + IMAP

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| Description: Stands for Internet Message Access Protocol, it is similar to POP but offers some additional features before the messages are retrieved. |

* **File Transfer**
  + FTP

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| Description: Stands for File Transfer Protocol, it is used for transferring files between a client and a server. Secured by SSL/TLS frequently. |

* + TFTP

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| Description: Stands for Trivial File Transfer Protocol, is a very simple version of FTP that uses no security. |

* **Web**
  + HTTP

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| Description: Stands for HyperText Transfer Protocol, used by the world wide web to define how data should be formatted and transmitted. |

**Transport Layer**

* UDP

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| Description: Stands for User Datagram Protocol, like TCP, used to connect applications over the Internet. |

* TCP

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| Description: Transmission Control Protocol, is a standard way of connecting applications over a network. |

**Internet Layer**

* **IP**
  + NAT

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| Description: Stands for Network Address Translation, lets LANs use a subset of IP addresses within the local network |

* **IP support**
  + ICMP

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| Description: Stands for Internet Control Message Protocol, used to report errors and other important information packets when something goes wrong sending IP packets. |

* **Routing Protocols**
  + RIP

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| Description: Short for Routing Information Protocol, is a somewhat inefficient way for routers to communicate their routing tables. |

* + OSPF

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| Description: Short for Open Shortest Path First, frequently sends small amounts of the routing table to routers in a network. |

* + EIGRP

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| Description: Stands for Enhanced Interior Gateway Routing Protocol, works on a large scale to find routes between routers. Only sends updates of information in the routing table that has actually changed, not the whole thing. |

* + BGP

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| Description: Stands for Border Gateway Protocol, shares routing information between groups of routers. As such is used by large systems such as ISPs. |

**Network Access Layer**

* ARP

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| Description: Stands for Address Resolution Protocol, converts IP addresses into physical address such as a ethernet address. |

* PPP

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| Description: Point-to-Point Protocol, is a way of connecting a device to the Internet by sending packets to a server that puts them on the Internet. |

* Ethernet

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| Description: Is a type of LAN architecture that uses bus or star topology. There are various versions with differing speeds, the latest being Gigabit Ethernet which supports up to a Gigabit per second transfer speeds. |

* Interface Drivers

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| Description: A go between for software and hardware, allowing software to use hardware functions without knowing how exactly it works. |