Network protocols function as the main pillars that enable communication between devices over a network.  
  
Understanding major networking protocols is important for IT professionals.  
  
However, there are a lot to remember, in this piece we'll break down some of the most important ones.  
  
𝗧𝗖𝗣/𝗜𝗣 (𝗧𝗿𝗮𝗻𝘀𝗺𝗶𝘀𝘀𝗶𝗼𝗻 𝗖𝗼𝗻𝘁𝗿𝗼𝗹 𝗣𝗿𝗼𝘁𝗼𝗰𝗼𝗹/𝗜𝗻𝘁𝗲𝗿𝗻𝗲𝘁 𝗣𝗿𝗼𝘁𝗼𝗰𝗼𝗹)  
This protocol is the underlying method of how information is passed between devices on the internet. While IP is responsible for addressing and routing data packets, TCP takes care of assembling the data into packets, as well as reliable delivery.  
  
𝗛𝗧𝗧𝗣 (𝗛𝘆𝗽𝗲𝗿𝘁𝗲𝘅𝘁 𝗧𝗿𝗮𝗻𝘀𝗳𝗲𝗿 𝗣𝗿𝗼𝘁𝗼𝗰𝗼𝗹)  
When accessing websites, HTTP plays a crucial role. It's responsible for fetching and delivering web content from servers to end-users.  
  
𝗛𝗧𝗧𝗣𝗦 (𝗛𝘆𝗽𝗲𝗿𝘁𝗲𝘅𝘁 𝗧𝗿𝗮𝗻𝘀𝗳𝗲𝗿 𝗣𝗿𝗼𝘁𝗼𝗰𝗼𝗹 𝗦𝗲𝗰𝘂𝗿𝗲)  
An enhanced version of HTTP, HTTPS integrates security protocols (namely TLS) to encrypt data, ensuring a secure and confidential exchange between browsers and websites.  
  
𝗙𝗧𝗣 (𝗙𝗶𝗹𝗲 𝗧𝗿𝗮𝗻𝘀𝗳𝗲𝗿 𝗣𝗿𝗼𝘁𝗼𝗰𝗼𝗹)  
As the name suggests, FTP is used for transferring files (uploading and downloading) between computers on a network.  
  
𝗨𝗗𝗣 (𝗨𝘀𝗲𝗿 𝗗𝗮𝘁𝗮𝗴𝗿𝗮𝗺 𝗣𝗿𝗼𝘁𝗼𝗰𝗼𝗹)  
A more streamlined counterpart to TCP, UDP transmits data without the overhead of establishing a connection, leading to faster transmission but without the guarantee that the data will be delivered or in order.  
  
𝗦𝗠𝗧𝗣 (𝗦𝗶𝗺𝗽𝗹𝗲 𝗠𝗮𝗶𝗹 𝗧𝗿𝗮𝗻𝘀𝗳𝗲𝗿 𝗣𝗿𝗼𝘁𝗼𝗰𝗼𝗹)  
The driving force behind email communication, SMTP manages the formatting, routing, and delivery of emails between mail servers.  
  
𝗦𝗦𝗛 (𝗦𝗲𝗰𝘂𝗿𝗲 𝗦𝗵𝗲𝗹𝗹)  
Secure Shell is a cryptographic network protocol that ensures safe data transmission over an unsecured network. It provides a safe channel, making sure that hackers can't interpret the information by eavesdropping.  
  
I'd love to hear your thoughts, are there any other protocols or concepts you'd like to add?  
  
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