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Summary

    This paper is about the origin thoughts on TCP/IP design. The brief history behind the development is the U.S Department of Defense trying to develop a protocol for packet switched networking. The fundamental goal of the protocol is to support multi-media network, which is the most basic requirement of network - availability.

    Another important thing to know when understanding the protocol is the goals it is trying to achieve. The priorities of the goal is important to the designation, and any iterations of the goal would affect the design of the protocol. The first of all goals is "Internet communication must continue despite loss of networks or gateways", because the original design for reliable delivery (TCP) is a source of delay and happen to be a not-so-good solution for the Internet. Also the Internet needs to tolerate multiple connections and constrain reliability, delay, or bandwidth at minimum, so caused TCP and IP be separated into two layers.

    The elegant solution for the protocol to allow multiple media is datagrams. Datagram provides a basic building block that represents the minimum network service assumption, allowing a wide variety of networks. The paper also stated TCP protocol's flow control is based on byte numbers but not packet numbers because amount of data received will vary a lot different due to the packet size. So by keep tracking of the byte number seems to be a better way.

Reflection

    I think this paper gives a thorough introduction for the thoughts behind the designing a protocol. I learned that the priority of goals is important to a protocols designation, because there is always trade-offs on the constraints and goals to reach. So that is why that the Internet seems to be lack of security, but that is the trade-off for the internet to deal with the packet as solo-es, as the transmit is by datagram.