Course: CS 125 - Computer Networks
Article Title: Brief History of the Internet
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Name: Sample Abstract

The paper, "A Brief History of the Internet" explores the topic of the internet from its origins and initial concepts, to its commercialization and future development. I found it to be an insightful overview of the subject and rewarding to read.

The paper starts by explaining the origins of the internet through the first computer network. The computers were linked through a low speed telephone line. This was shown to be inadequate for the job, and that a new technology (IMP packet switching) would be necessary. However it served as proof that computer networks were possible. Following from this, the first true computer system named ARPANET came into existence. When ARPANET was started around July 1968, the line speeds between sites was 50kbps using Leonard Kleinrocks theory of packet switching and Interface Message Processors (IMP). Soon more and more computers were added to the network at various universities in the US. By 1972 the network had grown greatly in size and presented at the International Computer Communication Conference (ICCC). This was a great success and with the creation of email applications ARPANET started to resemble the internet as we know it today.

The next two paragraphs focus on the concepts of the internet and how these concepts were proved. Of this, the four ground-rules that Bob Kahn laid out are especially important. These are, firstly, that every individual network must be able to exist independently. As well as this, the packets and communication would be provided on a "best effort" premise. If a packet wasn't able to reach its destination, it must be resent from its source. Thirdly, some kind of black boxes would be used to connect the networks; these would become routers. The routers would not keep any data about the packets flowing through them. This meant that it kept the system simple. Lastly, there would be no form of global control at the operations level. Soon, the technology began to be picked up by governments and used in defence. By 1985, the Internet was a well established technology that was supported by a vast number of developers and researches but also was beginning to be used by the general public for daily computer communications.

One of the aims of ARPANET was the ability to interact with different networks and operating systems, so in order to achieve this, the TCP/IP (Transmission Control Protocol/Internet Protocol) was created. From ARPANET, came NSFNET and many other early computer networks. NSFNET was a network comprised of U.S. universities that was intended for research, beginning in 1985. The initial speeds for NSFNET connections were 56kbps.

Due to the increase in size of the Internet's user-base the number of hostnames required

exponentially increased. Originally, hosts were simply assigned names, and there was a single table that associated the numerical address with that hostname. However, due to the increase in users it quickly became apparent that a new method for recording them was required and in 1983 Paul Mockapetris invented the Domain Name System (DNS).

Perhaps being somewhat ignorant, I knew very few of the names of the creators or developers of the internet before I read the article. These new names included, but were not limited to: J.C.R. Licklider, Leonard Kleinrock, Donald Davies, Roger Scantlebury, Robert Taylor, Vint Cerf, Robert Kahn, Paul Mockapetris, Steve Wolff, Jon Postel and Bob Metcalfe.

The article ends by talking about how the Internet was at the time (1997) and how they believe it will change and expand in the future.