INTERNET2

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Technology is constantly evolving and the craze to make the most out of a small amount of space causes users to anxiously await their new release. Upon a new release many seem obsessed with obtaining these new gadget(s) regardless of the strain that it could impose on their reserve entertainment budget. When acquiring these new items, there is likely a learning curb with becoming familiar with their new toys. Usually an avid gadget geek will use the Internet to do research about a new release, if information is available to be found, but there will always be a setback until they are fully acquainted with the product. Since the introduction of the Internet a.k.a. World Wide Web (WWW) to the public in 1991, it has helped feed that gadget geek obsession. Society itself has had a consistent movement to stay abreast of the latest and greatest technical equipment because the Internet helps put users in “the know” within minutes; without the need to leave their home. Tim Berners-Lee was the inventor of the Internet and at the time of its public use, he may have never imagined how many people would use his invention.

Since the mid 90’s, scientists have believed the Internet was being strained to serve millions from a technology that was originally designed to serve thousands. With the quick success and rapid growth of the Internet, along with smaller and better computers, most users may never have imagined that efforts towards building a faster Internet would be underway. The answer to creating a better Internet resulted in a Next Generation Internet (NGI) that could serve the masses, faster. So 1994 the United States government proposed an idea of creating the second Internet that essentially would surpass today’s Internet and this new Internet would be known as the Next Generation Internet Internet2.

Internet2 is a federally supported non-profit initiative with a research network of scientists, universities, corporate businesses and affiliates. The current physical backbone of the Internet2 project can deliver data approximately 9 gigabits per second (Gps) serving over 300 universities, government organizations, affiliates and businesses worldwide. Initially approximately 35 universities nationwide met in a Chicago hotel to collaborate and form the Internet2 project, which would become an advanced consortium of research and education (R&E) enthusiast. The outcome of this consortium began a board of members who would strategize about how to maintain a dynamic and high performing network. In 1997 the membered consortium met in California, called the consortium the University Corporation for Advanced Internet Development (UCAID), and noted the meeting to be the first Internet2 Project membership board meeting, which had grown to 100 members. The UCAID scientific members had presented many engineered ideas to continue advancement of project. The following year later the popularity of UCAID’s work had gained recognition from the highest office in the United States, holding approximately 125 membered universities and another approximate 55 corporate and other associated businesses to their rank and file. Businesses like Cisco, Nortel and Qwest Communications offered their brightest minds, equipment and expertise to further the project. In 1998 UCAID introduced the Abilene Project (in conjunction with the University of Indiana) operated at a data transfer speed of to 2.4 gigabits per second, covering approximately 10,000 miles across America; with members numbering 70 universities and businesses for that year.

UCAID met their commitment by years end thanks mostly in part to the thrust forward with the announcement by President Clinton’s administration that would further publicize the alternative Internet project for this publically unknown initiative. It all seemed like a Clinton administrative idea, which is the start of the rumor that Vice President Al Gore invented the Internet. In 1999 the Internet2 Project was well on its way in terms of research and education as well as membership growth. By this time UCAID had approximately 168 university members and an additional approximate 54 business and nearly 30 allied members. Clearly the Internet2 Project began as an enormous modeled Wide Area Network (WAN) that with an intelligent concept and smart marketing has excelled beyond expectations. After the turn of the century Internet2 fueled other projects that fed the interests of the Medical, Clinical and Health Science initiatives that have also shined, increasing the consortium to more than 200 universities and approximately 150 corporate business and affiliates. One reoccurring problem however, was that Internet2 was finding irregularities in prices attempting to acquire terms for Dark Fiber. Dark Fiber is fiber-optic cables that had already been laid but had not already been lit. UCAID and affiliated networks from California, Indiana and Ohio worked together to acquire this Dark Fiber with the intent of making these facilities as a state and regional level optical network (RON) collaboratively to support the research university community, thus creating Internet2 FiberCo.

Internet2 FiberCo then acquired their first 2,500 miles of dark fiber from Level 3 in early 2003. October 2006 the Internet2 consortium decided to improve its network backbone by selecting Level 3 as their network provider. Level 3 promised to build the Internet2 network supporting speed, tenfold of their present network capacity, increasing it to 100Gps Lambdas. Lambda is a Wavelength Selective Switch (WSS) that optimizes itself allows optical branching of up to five different optical paths, designed for long-haul networks. In 2007 Qwest Communications was informed that their contract with Next Generation Internet Internet2 would not be renewed and Internet2 partnered with Ciena (a multiservice switch and ultra-high-speed network business) to further the research and development of optical technology. Their vision was to create a scalable network to service the multi-numbered universities with up to 80 10Gps Lambdas. Today Internet2 FiberCo and the Research and Development community has acquired more than 27,000 route-miles of Dark Fiber that are devoted to regional efforts. The Ciena Internet2 FiberCo partnership has been able to serve academic communities around the globe while providing services that could finically fit individual customer needs.

Internet2 FiberCo created a second Internet that surpasses the Internet that most people know today by acquiring a host of collaborative partners, assistance from many prominent businesses to make their idea a reality.

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