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Internet in the Classroom

The Internet is a network of millions of computers worldwide, connected together. It is an elaborate source of education, information, entertainment, and communication. Recently, President Bill Clinton expressed an idea to put the Internet into every classroom in America by the year 2000[4]. Considering the magnitude of this problem, and the costs involved, it is not realistically possible to set this as a goal. The Internet allows the almost five million computers [1] and countless users of the system to collaborate easily and quickly either in pairs or in groups. Users are able to access people and information, distribute information, and experiment with new technologies and services. The Internet has become a major global infrastructure used for education, research, professional learning, public service, and business. The costs of setting up and maintaining Internet access are varied and changing. Lets take a look at some of the costs of setting up Internet service in a typical school. First comes the hardware. Hardware required is generally a standard Windows-based PC or Macintosh and a 14.4 Kbs or higher modem. This will cost about \$1000 apiece. If the average school has 50 classrooms, already the cost has risen to \$50,000 per school, for only one connection per classroom. Next you need actual Internet service. For 24-hour connections expect to pay \$100 or more per month, per account. If a school plans to have more than a few individual Internet users, it will need to consider a network with a high-speed dedicated line connected to the Internet. This school network would probably be a small- or medium-sized network in a single building or within very few geographically close buildings. Connecting an entire school may require more than one specific LAN(Local Area Network). Most high-speed

Internet connections are provided through a dedicated leased line, which is a permanent connection between two points. This provides a high quality permanent Internet connection at all times. Most leased lines are provided by a telephone company, a cable television company, or a private network provider and cost \$200 per month or more. The typical connection from a LAN or group of LANs to the Internet is a digital leased line with a Channel Service Unit/Data Service Unit (CSU/DSU), which costs between \$600 and \$1000.

When budgeting for a school's Internet connection there are a number of factors to consider that might not seem immediately obvious. Technical support and training will incur additional ongoing costs, even if those costs show up only as an individual's time spent. Equipment will need to be maintained and upgraded as time passes, and even when all teachers have received basic Internet training, they will most likely have questions as they explore and learn more on their own. A general rule for budget planning is this: for every dollar you spend on hardware and software, plan to spend three dollars to support the technology and those using it[2]. There are approximately 81,000 public schools in America. Within these schools, there are about 46.6 million children in kindergarten through 12th grade[3]. Considering an average of about 50 classrooms per school, at an average cost of \$1,000 per classroom for one connection (an extremely low estimate), this will give president Clinton's idea a price tag of roughly \$4 billion. This estimate does not even begin to take into account the costs of constant upgrades, full-time technicians, and structural changes required to install these systems. When you look into the actual facts of a problem,

sometimes you see that certain ideas are not at all plausible. Putting Internet access into our nation's schools is an excellent idea, but do we really need it? Considering that all major and most minor colleges offer a wide range of Internet services, it is not necessary to have that same service in our public schools. Bill Clinton's idea of putting Internet service into every classroom in America by the year 2000 is not realistically possible. When you look into the facts, it is obvious that this plan has not been thought out at all, and will not be put into effect.

References[1] Malkin, G., and A. Marine, "FYI on Questions and Answers: Answers to Commonly Asked 'New Internet User' Questions", FYI 4, RFC 1325, Xylogics, SRI, May 1992. [2]Answers to Commonly Asked "Primary and Secondary School Internet User" Questions Author: J. Sellers, NASA NREN/Sterling Software[3] NATIONAL CENTER FOR EDUCATION STATISTICSE. D. TABS July 1995[4] The Whit, Rowan College paper