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## **Internet Nation: Online Once and For All**

**By: Senior Fellow John Wohlstetter**

**O**n February 5 the Department of Commerce released its latest report, *A Nation Online: How Americans Are Expanding Their Use of the Internet*.<sup>1</sup> Prepared by the National Telecommunications and Information Administration (NTIA), the report presents a wealth of data on Americans online. And to be complete as well as democratic, the report discusses why many Americans are offline. But its democratic genuflection to those still offline is tempered by its signature statement: “With more than half of all Americans using computers and the Internet, we are, truly a nation online.”<sup>2</sup>

The major conclusions of the study are: (1) America’s online and computer use have grown substantially in recent years, with 54 percent of the population now online and 66 percent of Americans with computers (some offline—see below); (2) children and teenagers are the most prolific online user groups; (3) online usage is growing among all income, education, age, racial, ethnic and gender categories; (4) broadband access is used by 20 percent of online users, and is growing rapidly; (5) online activity covers an increasing range of activities; (6) Internet and computer use at work has driven growth of home usage.<sup>3</sup>

Each of these conclusions merits a closer look. Most report data are presented in terms of population, while other data refer to households. The focus on users reflects three factors: (1) ability to slice the data into a wide range of sub-groups; (2) growing online use away from home; (3) growing use of personal, mobile devices to access the Internet.<sup>4</sup> Unless otherwise indicated, data are as of September 2001, and for America only.

## Overall Use: Bursting Bubbles Do Not Kill Nets

The report tallies 60.2 million homes—56.5 percent of the nation’s 106.5 million homes—with a personal computer, with 88.1 percent (53.9 million) having Internet access as well; this makes for 50.5 percent of the nation’s households online.<sup>5</sup> In 1984 (the time of the Bell System divestiture) only 8.2 percent of households had computers; by 1995 (the year that Microsoft *Windows95* and Netscape *Navigator* made their market-transforming debuts, and one year prior to passage of the 1996 Telecom Act) that number had risen to 24.1 percent.<sup>6</sup> Then Internet usage exploded in tandem, rising since 1997 from 18.6 percent of homes to 50.5 percent.<sup>7</sup> Geographic distribution of Internet use has become far more uniform. In August 2000 most states had less than half their population online; 13 months later most states had more than half online.<sup>8</sup>

Globally, the US ranks only sixth in Internet use at 47.1 percent, behind Sweden, Denmark, the Netherlands, Finland and Austria, according to year 2000 data compiled by the Organization for Economic Cooperation and Development.<sup>9</sup> Those figures, albeit dated, also do not include such Net-happy Pacific places as Australia and South Korea.

## Computers and the Internet: Bridging the “Digital Divide”

In the past half decade, Internet use has grown at nearly four times the annualized rate (20 percent vs. 5.3 percent) of computers—no surprise given that computers have been a mass market item for a quarter-century (since 1977’s Apple IIe), whereas the Internet did not truly go mass market until 1996.<sup>10</sup> All income classes are increasing Internet usage, with the lowest

income segment increasing fastest: Users with income of less than \$15,000 jumped from 9.2 percent in October 1997 to 25.0 percent in September 2001<sup>11</sup>; as recently as 1999 the nationwide Internet penetration rate was 26.2 percent.<sup>12</sup> Employment is another factor with positive correlation. Among people above 16, 65.4 percent had Internet access versus 36.9 percent Net users among the unemployed; the unemployed users catch up to the employed numbers in about three years.<sup>13</sup> Internet use is highest among teenagers, stays nearly as high among those in the workforce, and declines after 55 years of age; the “cohort effect” will increase use of seniors as today’s younger users move up in age category.<sup>14</sup> In August 2000, female Internet use matched males and has since been growing at a slightly higher annual rate (20 percent vs. 19 percent).<sup>15</sup>

Education level is a major influence: Of those who failed to finish high school only 17.0 percent used computers and 12.8 percent used the Internet.<sup>16</sup> *Income and education, however, are not clones: People of lower education in high-income households are less likely to be online than well-educated counterparts in low-income households.* Thus, Internet usage is around 30 percent for non-high-school graduates in households with incomes above \$75,000, whereas the number for business degree and graduate degree users in households below the \$15,000 income benchmark hovers around 50 percent. (The latter figure is near the current 53.9 percent nationwide household Internet penetration level.)<sup>17</sup>

Racial/ethnic data yield valuable nuggets. The highest Internet usage is among Asian-Americans/Pacific Islanders (Asians, for shorthand) and whites, around 60 percent, followed by blacks at 39.8 percent and Hispanics at 31.6 percent. But black and Hispanic Internet use has grown at 33 percent and 26 percent annually between December 1998 and September 2001, faster than Asian and white use.<sup>18</sup>

The main reason Hispanics lag is language. For the one in nine Hispanic households where Spanish is the only language spoken, Net use is at 14.1 percent; multi-lingual Hispanic households are at 37.6 percent. This is hardly surprising, as income and educational levels (inter-related) are lower in Spanish-only households than in other Hispanic homes.<sup>19</sup>

## Online Usage: Plus ça Change....

Between August 2000 and September 2001 the main uses of the Net all rose but did not change rank. E-mail remains king of the online applications, at 45.2 percent of the population; product/service info-search rose to 36.2 percent; news/weather/sports to 33.3; and online purchases to 21.0. Only 2.8 percent of Americans use the Internet to make voice calls. In percentage terms, the largest increases were 73.4 for news/weather/sports and 57.9 for online purchases.<sup>20</sup>

Slicing the data another way, by percentage of total Internet users, the five leading uses were e-mail, 84.0; product/service info-search, 67.3, news/weather/sports at 61.8; games, 42.1; online purchases, 39.1. By contrast, other highly-publicized online uses lag, with TV/movies/radio (mostly radio) leading at 18.8.<sup>21</sup>

At a finer granularity, gender, age, race and income class affect how the Internet is used. Thus, more women than men use the Internet to check on health information (39.8 percent vs. 29.6), while more men than women surf the Net for financial information (12.6 percent vs. 5.3 for online trading, 19.3 vs. 16.5 for banking).<sup>22</sup> Older users were most likely to check online for health data (42.7 percent), while a slight majority of users between 25 and 44 liked to shop.

Race is mostly a proxy for education and economics. All groups show the same usage pattern popularity ranking, but black and Hispanic usage trails by the greatest margin in the online purchases category. Thus, versus the national average of 39.1 percent, 40.0 percent of whites and 39.8 percent of Asians buy online, compared to 26.2 percent of Hispanics and 24.7 percent of blacks. The gap is narrower as to e-mail usage, which is free: compared to the 84.0 percent national benchmark, Asians are at 88.8, whites are at 86.4, blacks at 72.9 and Hispanics at 71.2.<sup>23</sup>

Race, economics and location of access are related: Blacks, Hispanics and Asians are more likely to use the public library to access the Net than are whites.<sup>24</sup> *Perhaps most significant of all ethnic/race data is that among children in the 10-17 age bracket, the computer use gaps narrow greatly: whites are at 95.4 percent, Asians at 94.0, blacks at 88.8 and Hispanics at 84.2.*<sup>25</sup>

Usage increases markedly with income; in eight of 16 categories the highest bracket (over \$75,000 annual income) led the pack, with financial and commercial uses predictably among the leading top-tier applications. Interestingly, though, the bottom (under \$15,000) and top income groups are tied (at 4.0 percent) for the lead in online education use.<sup>26</sup>

## Faster, Farther and Fads: Cyber-Community Proliferation

*Faster.* Between August 2000 and September 2001, broadband went from 11.2 percent of Net users to 20.0 percent.<sup>27</sup> At 12.2 percent penetration, rural broadband still trails the national average.<sup>28</sup> Broadband usage largely mirrors narrowband; the only major divergence is that 28.2 percent of broadband users, versus 18.8 percent of the narrowband set, use the Internet for movie/TV/radio streaming.<sup>29</sup>

*Farther.* The Net is spreading its wings to new devices and new places, and access outside the home is growing. Internet-ready cell-phones/pagers are now owned by 4.8 percent of users; personal digital assistants (PDAs) have hit 1.6 percent penetration.<sup>30</sup>

Location matters. The percentage of the population accessing the Internet is highest at home (43.6 percent), distantly followed by work (19.6) and school (11.9).<sup>31</sup> But groups with lower Internet use rely more on schools: Percentage use figures for those relying solely on the schools are highest for black (44.7) and Hispanic (38.9) children.<sup>32</sup>

*Age of the Cyber-Child.* Households with children lead those without kids in percentage penetration of Internet access (62.2 to 53.2) and broadband access (18.4 to 16.9).<sup>33</sup> Among school-age children (ages 5 to 17) 58.5 percent use the Internet. In the 18-24 bracket, 85.0 percent use the Internet, versus 51.5 percent of those not in school.<sup>34</sup> Kindergarten is becoming cyber-garden: 84.3 percent use computers at home, school or both.<sup>35</sup> Parental economics constrain kid use: Cyber-kids accessing the Internet from high-income households (over \$75,000) do so at nearly four times the rate in low-income households (under \$15,000).<sup>36</sup>

*Fads.* Kids may be cyber-savvy to the point of running rings around their bemused parents, but usage, predictably, varies greatly. The highest use of games is in the 5-9 age bracket; the 18-24 group leads (89.3 percent) in e-mail; chat-room use is highest (34.2 percent) among the 14-17 set; the 18-24 (27.8 percent) and 14-17 (26.9 percent) sets lead in TV/radio/movie use. School use rises sharply after the 5-9 years, rising from that group's 46.9 percent up to 90.1 for 18-24.<sup>37</sup>

*The Office.* Office use is perhaps the strongest driver of use outside the home. More than half (56.5 percent—65 million out of 115 million) of workers now use computers at work; of those doing so, most use the Internet (81.5 percent—53 million) and e-mail (73.4 percent—48 million).<sup>38</sup> The top job classifications correlated with computer use at work are managerial and professional specialties (80.5 percent) and technical, sales and administrative support (70.5 percent). There is a workplace job/computer gender gap: some 75 percent of women and 50 percent of men hold such positions.<sup>39</sup>

Work use and home use are increasingly correlated: 24 of the 65 million office users (36.9 percent) also have home computers.<sup>40</sup> The spillover effect is made clear when data are broken down by income and education, with lowest ranking segments the biggest beneficiaries. Internet access more than triples for low-income (under \$15,000) households, from 17.7 percent overall to 57.2 percent, when someone in the household uses a computer at work.<sup>41</sup>

*Disabilities.* The numbers rise with age, but overall, some 8.5 percent of the population has at least one of the five disabilities covered in the study.<sup>42</sup> The disabled use the Internet more than the overall average in two categories: playing games and searching health information.<sup>43</sup>

## Offline: The Far Side of the Digital Divide

Income, education and ethnicity/race are the prime characteristics that divide online and offline. By far the most prominent dividers are education and language: 87.2 percent of adults 25 or older who did not go past high school, and 85.9 percent of non-English-speaking Hispanics, are offline. Both figures are substantially higher than the 68.4 percent of all His-

panics and 60.2 percent of blacks who are offline.<sup>44</sup> Those on the “off” side of the divide shrink by two-thirds among those completing college, with only 19.2 percent offline.<sup>45</sup>

Asked why they were offline, respondents in September 2001 cited the associated expense as the “main” reason for lack of home access; 34.7 percent of below-\$15,000 income households and 9.6 percent of above-\$75,000 households cited cost.<sup>46</sup> Of the 3.3 percent of online households that had dropped off, 22 percent cited cost and 20 percent did not want service.<sup>47</sup> An aggravating factor—not broken down as a separate reason for disconnecting—is confidentiality concerns: Respondents expressed greater concern over privacy loss on the Internet than the telephone by 50.9 to 7.7 percent.<sup>48</sup>

## Closing Thoughts: Cyberspace and Community

American life is a long way from becoming a perpetual nationwide chat room or electronic town meeting. Yet resources online are indeed increasing daily. And—a critical part of creating community—online history is being preserved. The Internet Archive preserves old web pages through its *waybackmachine*.<sup>49</sup> Want to find out what CNN’s website showed on 9/11/2001? It’s there. Want to see what Amazon’s website looked like on October 22, 1996 (the year the Archive was begun)? It’s but a few clicks away.<sup>50</sup>

Much of today’s use is personal, but communal uses are growing. All major societal groups are online in growing numbers. The marketplace is closing much of the gap; the schools and libraries program no doubt accelerated—at huge expense—educational access (by how many years is unclear). Trailing groups are coming online faster, and their

access pace lag is two or three years behind the leaders. Gaps are smallest among children.

The one divide that threatens to persist is the one that Internet-related policies can do little to close: the educational divide, both as to quantity and quality of education. To the extent that education is a proxy for income level, marketplace price reductions will help narrow the gap. The recipe for crossing the “digital divide” is simple: finish school and then get a job.

Not all folks care. The 20 percent of those who have disconnected because they did not

want the service cannot really be said to be on the wrong side of any divide. Those who voluntarily elect cyber-Thoreau status—a virtual Walden Pond, as it were—are so entitled. Policies aiming to ensure that the choice is truly voluntary should target education and remove disincentives to productive economic activity.

A final thought: Access is still not essential to function effectively in American life. *But when the Internet is truly woven fully into the fabric of American life—probably over the next decade or so—online access will be a crucial determinant of one’s position in life, rather than, as now, a mere reflection of it.*

## [ET CETERA]

*CEO Link.* The Business Roundtable has just announced that AT&T will build a network linking the 150 CEOs of member companies to enable the CEOs to coordinate responses to terrorist attacks. Also under consideration: counter-terror “best practices” and linkage to federal, state and local governments. Eventually, the network might also be extended to include smaller firms.<sup>51</sup>

*Surveillance Society.* The latest count for London’s 150,000 cameras is that each person in public in London can expect to be photographed 500 times daily. Crime, however, is up in London, while declining in Liverpool (cameras are there, too). Washington D.C. Police Chief Charles Ramsey is encouraged by the British example, citing in a radio interview the “great sense of safety and security that people feel while they are out and about.”<sup>52</sup>

*Smart Networks; Dumb (and Crooked?) People.* Sixty-six applicants for security positions at Charlotte-Douglas International Airport have been indicted for making false statements on their applications. The Justice Department believes that 65 of the 66 are illegal aliens; with Security Identification Display Area (SIDA) badges, all had access to planes, runways, ramps, taxiways, baggage and cargo areas.<sup>53</sup>

The INS has just vaulted past airport security in the “dumb people” category, posthumously awarding student visas to Sept. 11 hijacker Mohammed Atta and one of his comrades six months later!<sup>54</sup>

On the smart network front, the INS is putting the names of the estimated 314,000 “absconders” (illegal aliens who have been ordered to leave the US but remain here) into the National Instant Criminal Background Check System. The US deports some 180,000 illegals annually—500 per day. The Aviation and Transportation Security Act details the Customs Service with monitoring who flies internationally into the US: passport number, date and country of birth, visa data and about 20 other questions. Customs shares the data with the INS and FBI, and it is run against 24 “watch lists” for matches. Profiling techniques are used, excluding ethnicity/race but including country of origin—i.e., passengers coming from countries where al-Qaeda operates are flagged.<sup>55</sup>

*Cops to the Rescue?* On a brighter note, the Port Authority wants to hire retired cops for JFK International Airport, for a two-year trial as security screeners, based upon the PA’s belief that the 100 hours of training federal screeners will get is not enough. To do so the PA will need to obtain a waiver of the “all federal employee” rule for security screeners.<sup>56</sup> Stay tuned.

- <sup>1</sup> U.S. Department of Commerce, Economics and Statistics Administration, National Telecommunications and Information Administration (February 2002).
- <sup>2</sup> Id., Executive Summary, p. 2.
- <sup>3</sup> Id., pp. 1-2. In September 2001, 143 million Americans were online, and 174 million used computers. These numbers do not track with NTIA's percentages: if one uses 285 million for the nation's population, the numbers would be 153 million for 54 percent online and 188 million for 66 percent with computers. But perhaps close enough for government work.
- <sup>4</sup> Id., p. 5.
- <sup>5</sup> Id., p. 3. By population, 80.6 percent of computer users use the Internet as well. Id., p. 4.
- <sup>6</sup> Id., p. 3, Figure 1-1.
- <sup>7</sup> Id.
- <sup>8</sup> Id., p. 4.
- <sup>9</sup> Id. That the US lags the novelty-crazed Scandinavians is no surprise, but Austria? We may be consoled that we trounced the former skiing powerhouse (remember Franz Klammer's insane downhill rush for the 1976 gold medal at Innsbruck—on a course, shades of Afghanistan, called the Kandahar?) in the Salt Lake City Olympics.
- <sup>10</sup> Id., p. 10.
- <sup>11</sup> Id., p. 11.
- <sup>12</sup> Id., p. 3, Figure 1-1.
- <sup>13</sup> Id., p. 13 & Figure 2-4.
- <sup>14</sup> Id., p. 14.
- <sup>15</sup> Id., p. 15.
- <sup>16</sup> Id., p. 17.
- <sup>17</sup> Id., p. 19 & Figure 2-10.
- <sup>18</sup> Id., p. 21 & Figure 2-12.
- <sup>19</sup> Id., p. 23 & Figure 2-13.
- <sup>20</sup> Id., p. 30 & Figure 3-1.
- <sup>21</sup> Id., p. 31 & Figure 3-2.
- <sup>22</sup> Id., p. 32.
- <sup>23</sup> Id., p. 35.
- <sup>24</sup> Id., p. 40 & Figure 4-6.
- <sup>25</sup> Id., p. 47.
- <sup>26</sup> Id., p. 34 & Table 3-1.
- <sup>27</sup> Id., p. 35.
- <sup>28</sup> Id., p. 36. An earlier issue of *Bandwidth* noted that rural DSL penetration, at 3 to 4 percent, has been out-pacing urban rollout, at 1.5 percent. *DSL Delusions: More Bad History, and Even Worse Policy*. < <http://www.discovery.org/bandwidth/issues/2001-12-03.pdf> > The numbers in *DSL Delusions*, however, are DSL-specific, unlike the NTIA figures in *A Nation Online*.
- <sup>29</sup> *A Nation Online*, note 1 supra, p. 37.
- <sup>30</sup> Id., p. 38.
- <sup>31</sup> Id., p. 39.
- <sup>32</sup> Id., p. 47 & Figure 5-7.
- <sup>33</sup> Id., p. 42.
- <sup>34</sup> Id., p. 43
- <sup>35</sup> Id., p. 44.
- <sup>36</sup> Id., p. 49.
- <sup>37</sup> Id., p. 53, figure 5-13.
- <sup>38</sup> Id., p. 57.
- <sup>39</sup> Id., p. 58.
- <sup>40</sup> Id., p. 62
- <sup>41</sup> Id., p. 63 & Table 6-4.
- <sup>42</sup> Id., p. 66 & Table 7-1. The five: (1) vision loss; (2) hearing loss; (3) difficulty walking; (4) difficulty typing; (5) difficulty leaving home.
- <sup>43</sup> Id., p. 68.
- <sup>44</sup> Id., p. 73.

<sup>45</sup> Id., p. 74 & Figure 8-1.

<sup>46</sup> Id., p. 75.

<sup>47</sup> Id., p. 76 & Figure 8-3.

<sup>48</sup> Id., p. 77

<sup>49</sup> <http://www.archive.org/>

<sup>50</sup> <http://web.archive.org/web/19961022174817/http://www.amazon.com/exec/obidos/subst/index2.html>

<sup>51</sup> CEOs Plan Network to Link Them to Attack, Washington Post, p. E1 (Mar. 13, 2002).

<sup>52</sup> Ramsey Says the District Will Add Cameras, Washington Times, p. A8, Mar. 9, 2002.

<sup>53</sup> N.C. Airport Workers Indicted in ID-Badges Case, Washington Times, p. C8, Mar. 9, 2002.

<sup>54</sup> Terrorist Pilots' Student Visas Arrive, Washington Post, p. A1 (Mar. 13, 2002).

< <http://www.washingtonpost.com/wp-dyn/articles/A16787-2002Mar12.html> >

<sup>55</sup> How Sept. 11 Changed America, Wall Street Journal, p. B1, Mar. 8, 2002.

<sup>56</sup> JFK Eyes Ex-Cops as Bag Checkers, Washington Times, p. C9, Mar. 8, 2002.

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