

To H-1B Or Not To H-1B?

Are we facing an IT shortage of crisis proportions, or systematically destroying a skilled and capable homegrown workforce?

By Alice LaPlante, [InformationWeek](#)

July 14, 2007

URL: <http://www.informationweek.com/story/showArticle.jhtml?articleID=201000479>

Dave Lovelace laughs when you ask about the [purported shortage of qualified IT workers](#). He has 35 years of senior-level IT experience under his belt, ranging from systems programming to systems engineering to business development. He's published a number of well-regarded books on storage technology, forged strategic alliances between multinational vendors, and negotiated multimillion-dollars contracts.

And, apparently, nobody needs his services.

Over the past 24 months, Lovelace has applied for hundreds of jobs in Silicon Valley, where he's based. It's rare he gets even a courtesy e-mail or call in return.

"I'm not just sending out resumes to every job posting, but only the ones I'm qualified for," said Lovelace, who just finished a book on storage migration for the SAP environment. "There's clearly no shortage of technology workers. If that were the case, I'd been getting dozens of calls every week, and salaries would be going through the roof. And that's just not happening."

Or listen to Sharon Adler's story. Adler, like many former IT professionals, has simply stopped looking for work. She earned her master's in computer science from California State University in Northridge in 1988 with a 4.0 grade point average, and spent the next 12 years as a member of the technical staff at Bell Labs developing software -- first Unix kernel code and then data visualization applications using object-oriented technology and C++. In 2000, Adler moved from California to New Hampshire to develop e-commerce applications for a startup, and after the dot.com crash, she developed text-messaging systems for an international telecommunications company. In 2002 the Netherlands-based company closed its U.S. development facility. Adler hasn't worked in IT since.

"I even tried making my resume look less experienced, and I never mentioned my age," said Adler, adding that she applied for everything from entry-level positions to those that matched her actual level of expertise. While job hunting, she got certified in J2EE by taking a Sun-sponsored course. Nothing came of that. "Most of the people in the class had their master's degrees and decades of experience, yet were finding it difficult to get any response from employers advertising for IT workers," said Adler. "It was like sending our resumes into a black hole."

Countering claims that the United States is facing a critical shortage of skilled technologists, former IT professionals like Lovelace and Adler point to depressed wages and their inability to score even preliminary interviews as evidence that the market is already flooded. Yet at the same time, technology companies such as Microsoft, Google, and Oracle, asserting that their ability to function at full capacity is being [hampered by the lack of qualified technologists](#), are furiously pressing Congress to allow more temporary high-tech workers into the country by raising the cap on how many H-1B temporary foreign worker visas are issued. Indeed, on the first day in April 2007 that H-1B petitions could be filed, the U.S. Citizenship and Immigration Services (USCIS) was overwhelmed with [more than 150,000 petitions](#) from employers hoping to snag some of the 65,000 general visas available for fiscal 2008.

In June, Google's VP of people operations Laszlo Bock pointed to those numbers as part of [testimony](#) meant to convince Congress that the H-1B cap should be raised. In a [related blog post](#) commenting on Bock's testimony, Pablo Chavez, Google's policy counsel, wrote that "over the last year alone, the artificially low cap on H-1B visas has prevented more than 70 Google candidates from receiving H-1B visas."

An April 2007 report by the American Electronics Association, an industry trade group, found that the U.S. technology industry increased the number of jobs by 150,000 in 2006 alone, and that there aren't enough U.S. workers to fill those jobs. According to the report, less than 3% of U.S. computer systems designers are out of work, and less than 2% of engineers are actively looking for jobs. And these numbers would look even better -- more jobs would have been created, unemployment would have sunk even further -- if U.S. firms could tap into the global labor market, according to William Archley, president and CEO at the AEA.

Indeed, the situation is so dire, according to technology companies, that the United States is in real danger of losing its ability to innovate. Paul Otellini, president and CEO of Intel, reiterated this in a [report issued in mid-June](#) by the Technology CEO Council that asserted the economic future of the U.S. tech industry is "intrinsically tied to the global economy." "We can either embrace that and

prosper, or shirk from it and lose our economic edge," Otellini said.

But opponents to raising the H-1B cap say the issue isn't a shortage of talent, but the desire for U.S. firms to recruit cheaper labor.

Although Adler said she can't tie her inability to get work specifically to employers' desire to hire less-expensive H-1B visa holders, "in my admittedly anecdotal experience, there's no shortage of qualified American IT professionals to warrant raising the H-1B cap," she said. Agreed Lovelace, "It's impossible to prove, but by talking to former colleagues, it seems clear that firms are hiring temporary foreign workers in large numbers while qualified American citizens are out of work." Others say the numbers just don't add up. "If everything the industry is saying is true, and there really is a labor shortage, then IT wages would be skyrocketing," said Paul Almeida, president of the [Department of Professional Employees](#), a coalition of 23 unions representing white collar workers affiliated with the AFL-CIO. "Instead, they're stagnant or even declining."

And it's not just U.S. workers who are suffering under the current broken H-1B system, said Norman Matloff, a professor of computer science at the University of California, Davis, who has long been an opponent of raising the H-1B cap. "Because H-1B is an employer-sponsored visa, this effectively ties the visa holder to his or her employer," said Matloff. "This is about cheap labor, period, and H-1Bs are being exploited, even as U.S. workers are being displaced."

"The H-1B program is deeply flawed. It's lose-lose for the U.S. economy and for the technology profession, and lose-lose for the H-1B workers themselves," said Vivek Wadhwa, an executive-in-residence at Duke University's Pratt School of engineering, who in conjunction with Duke's Center on Globalization, Governance & Competitiveness preformed a comparative study of how many American engineers were graduating each year compared to those produced by countries such as China and India. He also surveyed employers to see how long it was taking them to fill open engineering positions with U.S. workers. His conclusion: Although other countries, particularly China, are surging ahead of the United States in graduating engineers with advanced degrees -- and that trend should be taken very seriously -- there's no indication of a shortage of engineers in the United States.

H-1B visas are "specialty occupation" visas created in 1990 that allow foreign professionals with college degrees to work for three years in the United States. The visas are then renewable for another three years.

There's a misconception that the H-1B cap is currently set to let in just 65,000 guest workers annually. In reality, tens of thousands more H-1Bs are issued because of various exemptions. For example, educational institutions and non-profits are allowed to bring 27,500 foreign workers into the United States each year above and beyond the 65,000 cap. An additional 20,000 H-1B visas annually are allocated to U.S.-educated foreign workers with advanced degrees. Indeed, the USCIS approved 117,000 H-1B visas in 2005, and the number has been as high as 125,000, according to data released by the U.S. Government Accountability Office (GAO) in a [report to Congress in June 2006](#).

Although many people believe that employers are required by law to first consider Americans for positions before hiring H-1Bs, that's another misconception. An employer is merely required to file a Labor Conditions Application (LCA) with the Department of Labor attesting that temporary foreign workers will be paid the prevailing wage and that there's no strike or lockout in progress. (The exceptions are firms that are classified as "H-1B-dependent" because more than 15% of their employees are H-1Bs. These companies must undergo a [more rigorous process](#).)

Orson Yancey is a 51-year-old software engineer who earned a bachelor's degree in mechanical engineering with a minor in computer science from Cornell University in 1980. He has been in the IT field since 1984, is proficient in C, C++, and Unix, and specializes in networking and operating system software, and was always fully employed until 2000. At that point, he said, the jobs dried up. Convinced that the problem is a glutted IT labor market, he can point with certainty to being phased off one project where he was writing financial applications software in an SCO Unix environment, and replaced with a less-expensive H-1B worker. There have been other times when he suspected that was the case, but he had no definitive evidence. "It's a very difficult thing to prove, but I am personally convinced that employers are simply looking for the cheapest person, and that H-1B visa holders come cheap," said Yancey.

One 52-year-old LAN/WAN network administrator with a degree from a top-tier university was replaced by an H-1B worker at a major Chicago-based utility company in June 2006, and has not been able to find work since. He said he wouldn't mind if he felt that qualified U.S. workers were getting "first dibs" on IT jobs. "But the fact is, we're not," he said. "And there's nothing in the law that requires employers to give us that opportunity." Another myth, according to advocates for keeping the H-1B cap in place, is that both H-1B workers and U.S. workers are protected because the law mandates that H-1Bs are paid the prevailing wage. Because this safeguard is in place, employers can't exploit H-1Bs by paying them less, and U.S. workers' chances of employment -- and salaries -- aren't being undermined, according to the employers.

Yet the prevailing wage argument is rife with loopholes, said John Miano, founder of the [Programmer's Guild](#), a professional society that acts as an advocate for the software programming community. First of all, "prevailing wage" is a legal term, and isn't synonymous with market wage. Statistically, it's also very easy to manipulate, he said.

Under most government regulations, prevailing wage is the median wage for all U.S. workers working at a given occupation at a given location based on information provided by an external source of wage information. If no such information is available, an average wage of an employer's current workers is considered valid. Or an employer can use the Department of Labor's own skills-based prevailing wage system that sets wages based upon skill levels 1 to 4. Most employers applying for H-1B visas claim that they need workers at level 1, which means they get paid wages at the 15th-20th percentile. "Statistically, between all these measures, you usually have enough leeway to take \$20,000 to \$30,000 off the market wage without breaking the law in any detectable manner," said Miano.

Ron Hira, an assistant professor of public policy at the Rochester Institute of Technology (currently on leave) and a research associate at the [Economic Policy Institute](#), pointed to USCIS's most recent report to Congress, which shows that the medium wage in 2005 for new H-1B computing professionals was just \$50,000 -- even lower than the entry-level wages that a newly graduated tech worker with a bachelor's degree and no experience would command.

According to data from the Bureau of Labor Statistics' Occupational Employment Statistics (OES) as the measurement of U.S. wages, and the H-1B LCA disclosure data to measure H-1B wages, 90% of H-1B employers' prevailing wage claims for programmers were below the median U.S. wage for that occupation and location, with 62% of them falling in the bottom 25th percentile of U.S. wages, said Miano.

"Because U.S. firms simply can't compete if they don't use H-1B workers, in effect our economy is becoming addicted to these workers," said Jessica Vaughan, a senior policy analyst at the Center for Immigration Studies, which generally advocates limiting immigration but extending a warmer welcome to those who are allowed in.

Brian Sullivan considers himself one of the lucky ones. A 45-year-old IT open-source programmer working for a Detroit-based Fortune 500 utility company, he's always had a job. He earned a dual bachelor's degree in accounting and MIS from Oakland College and an MBA from Wayne State University, and began working in IT in 1986 for Chrysler right out of college. After 10 years, he moved to EDS and then, during the tech boom of the late 1990s, went into contracting because the pay was so good. He also teaches IT classes at Oakland "so I have a vested interest in this subject," he said.

Over the course of his career, he has seen ample evidence that the H-1B visa program results in gross economic inequities, for both U.S. workers and H-1B holders. "Say that I pay you \$30,000 annually to come over and do some Java work," Sullivan said. "After a year of that, you're now doing a job that a U.S. worker would charge \$100,000 for. Yet because you're tied to your sponsoring employer, you can't quit. And U.S. workers with similar -- or even better -- skills can't compete with you."

Likewise, Bob Hannah is appalled at what employers are currently offering to pay experienced technology workers in his area. A 56-year-old network administrator in Bettendorf, Iowa, Hannah was let go from his long-time job at a Midwestern bank after it was acquired by a larger financial institution and the entire IT department was outsourced. Out of work for more than a year, he has applied for more than 100 jobs but rarely gets a call or e-mail back. "Even if I did, none of the salaries touch what I was making at the bank," he said. Currently, he's working part-time as a contractor repairing Dell computers.

Back in the 1990s, working as a Y2K consultant in Chicago, Hannah remembers the large numbers of H-1B workers brought in because they were considerably cheaper than Americans. "They were incredibly nice people and hard workers, and deserved better," he said. That's still the case, but now he's feeling the impact of what he considers unfair wage competition. "Back then, there was plenty of work to go around. Now there isn't."

"If this is truly about jobs that we can't fill with Americans, then make it truly competitive and pay us all equally," Sullivan agreed. "Otherwise, it's simply not a level playing field." Tech heavyweights such as Microsoft, Google, and Cisco have long claimed that what's at stake is no less than the ability of the United States to remain competitive in an increasingly global market. Without their ability to bring in the best and the brightest technologists from around the world, their companies' ability to innovate will suffer.

Yet this argument seems somewhat disingenuous given government data. In fact, very few H-1B workers are ranked as highly skilled, or at level 4 of the Department of Labor's four-level skill-based prevailing wage system. A full 56% of LCAs filed asked for H-1B workers with the lowest skill level (level 1). According to Miano, this means either that these workers aren't contributing substantially to America's ability to innovate and compete, or that employers are deliberately understating workers' skills in order to justify paying them less. Agreed Vaughan of the Center for Immigration Studies, "It's difficult to say whether the people coming in are really less skilled, or whether firms are simply claiming they are to avoid paying them market salaries. Either way, it's an indictment of the system."

Toni Chester today commutes between four and six hours a day between her home in Bloomsbury, N.J., and her Web development job in Manhattan. A lifelong IT contractor with a double degree in applied mathematics and computer science from the University of Central Florida, Chester's career has spanned 20 years and included stints at a variety of Fortune 1000 firms, including AT&T, Price Waterhouse, and Lucent.

But Chester's work life has gotten progressively worse since 2003. The contracts have all but dried up. When she's lucky enough to score one, instead of it lasting two years, she feels fortunate if it's for more than three months. And salaries keep dropping. Her last major gig paid \$25 less per hour than she'd gotten one year previously. She estimates that she has sent out thousands of resumes in the last four years. "You can't tell me that companies are having trouble finding good people," Chester said. "I've talked to recruiters who say they get hundreds of resumes for a single position, and the window for applying for a particular job closes within an hour."

Chester said she has first-hand experience that H-1B workers are paid less than their U.S. counterparts. "In the late 1990s, I was making \$25,000 more than my H-1B coworkers," she said. On several occasions, her contract was terminated early so that the companies could bring in cheaper H-1B labor. And in one instance, she was instructed to train the H-1B worker who was replacing her, and who lacked the necessary skills to do the job.

Another widespread assumption is that H-1B visas are awarded to U.S.-based companies that then use them to staff up their operations so they won't have to go offshore. Yet a substantial percentage of H-1Bs are issued to outsourcing companies already based offshore. Of the top 200 companies receiving H-1B visas for foreign workers last year, [five of the top 10 were Indian outsourcers](#). Last year, nine Indian outsourcing companies were issued 19,512 of the general 65,000 H-1B visas granted, according to the Labor Department. Such firms hire foreign nationals under the H-1B visa program, then offer U.S. companies technical services on a contract basis.

This "insourcing" is a gross distortion of what the H-1B program was originally created to accomplish, according to Rochester Institute of Technology's Hira. "When used in this manner, the H-1B visa is really a conduit to outsourcing," said Hira. "The Indian firms that supply H-1B contract workers get the workers on-site at a client firm, get them fully trained on the necessary skills that would be difficult to acquire from overseas, and then move the work offshore completely." The technology industry points to the fact that fewer Americans are enrolling in technology programs at the university level, and that increasingly large percentages of those emerging from graduate programs are foreign born as further evidence that more H-1B visas are needed. Indeed, almost 60% of engineering PhD degrees awarded annually are currently earned by foreign nationals, according to the American Society for Engineering Education. Yet this could be a self-fulfilling prophecy. "Due to both outsourcing and insourcing, many young people are concluding that technology is a bad place

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to invest their time," said Mark Thoma, a professor of economics at the University of Oregon in Eugene.

It's not surprising that American kids are reluctant to pursue IT careers, said Sullivan, who teaches IT management classes at Oakland College. "It's a really tough sell. The salaries aren't there anymore, and there are a lot fewer students enrolling." Sullivan used to give an opening spiel extolling the virtues of an IT career. "I've modified it significantly to explain what's happening, and how we're under fire," he says.

And some say even the advanced degrees don't help. After all, Adler had a master's in computer science. And as Ron Krollman found out after he headed back to school to get a master's degree when his career seemed to run out of steam in 2002, an advanced degree isn't a sure ticket to success. A 41-year-old networking hardware engineer from Geneva, Ill., he graduated from the University of Illinois in Chicago with a degree in electrical engineering in 1989 and racked up considerable experience through long-term positions at two major Chicago technology firms until he got caught in a wave of layoffs in February 2002.

While in graduate school, Krollman worked various contract jobs side by side with H-1B visa holders fresh out of graduate school themselves, and he was shocked by what they were getting paid. "I'm seeing H-1B PhDs working for less in 2007 than what I earned with a bachelor's degree back in 2002," he said. Today Krollman spends his time scouring job boards and sending out his resume, but he's disheartened by the lack of response.

At this point, the only thing that the two sides of the debate agree upon is that the H-1B system is broken. But solutions for fixing it are all over the map.

A new [immigration reform amendment](#) being proposed by Senators Bernie Sanders (I-Vt.) and Chuck Grassley (R-Iowa) could make it a lot tougher for firms to plan mass layoffs of U.S. workers if those companies have also hired foreign workers on H-1Bs. Called the Sanders-Grassley Amendment, this would require U.S. companies to certify to the Department of Labor that they haven't had any mass layoffs of American workers in the previous 12 months before they could file LCAs to hire any new foreign workers. The amendment would define mass layoffs as the dismissal of 50 or more U.S. workers by companies with more than 100 employees.

At a minimum, all participating employers should be required to make good-faith efforts to recruit U.S. workers, and to use the H-1B program to augment rather than replace the American workforce, said Chris McManes, senior public relations coordinator at the IEEE-USA.

The tech industry, on the other hand, [is pushing to increase the number of H-1B visas](#) issued to at least 115,000, and to streamline green-card processes so those workers could more easily become permanent residents. These proposals are part of the Senate's recent comprehensive immigration reform bill that, despite strong support from President Bush, has stalled.

Many of the people critical of the current H-1B program advocate curtailing it significantly, or doing away with it altogether, in favor of a plan that puts qualified foreign technology workers on a fast track for permanent residency without tying sponsorship to a particular employer. This would eliminate the possibility of exploitation of the visa holder, while making it more likely that wages would be competitive.

"Skilled immigrants have the potential to contribute to the economy, create jobs, and allow us to innovate," said Duke University's Wadhwa. "If we really need more technology workers, we should be more discriminating about how many we let in, and make the ones we do admit truly welcome."

This, ultimately, is what IT professionals like Sullivan want. "If we get a more level-playing field, then everyone -- U.S. workers as well as H-1B holders -- will be much happier," he said.