



**Association for
Computing Machinery**

Advancing Computing as a Science & Profession

U.S. IT Employment and Trends



Snapshot of the IT Workforce

This report covers both current and projected trends of employment in information technology (IT). Previous and current data were compiled from the Bureau of Labor Statistics' (BLS) annual Occupational Employment Statistics (OES), which is released every summer for the year prior. Projected data was obtained from a 2007 study done by BLS and the U.S. Department of Labor, giving projections of industry and occupational employment, labor force, and economic growth covering the 2006-16 decade. These projections are updated every two years; the next update is scheduled to be published in November 2009.

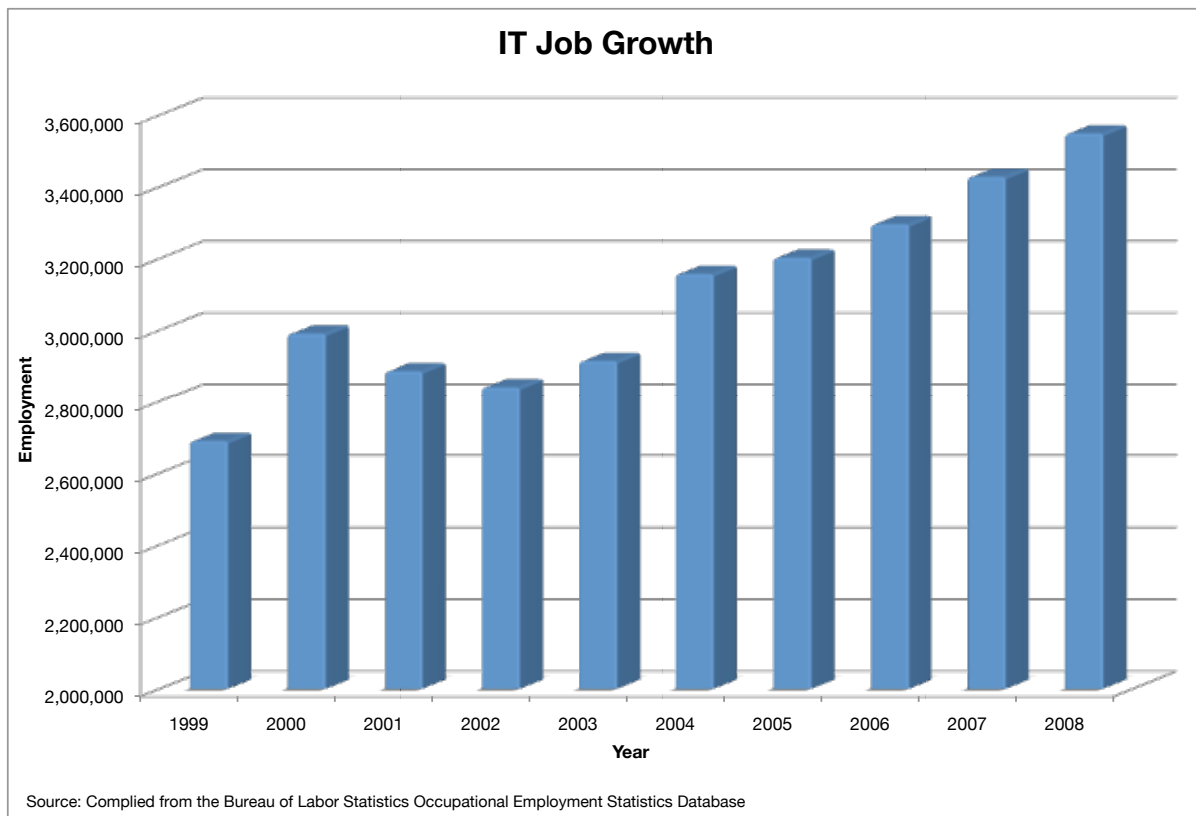
BLS has not released updated projections in the wake of 2008's economic downturn.



Current Employment Trends

The IT workforce has grown steadily after declines during the “dot com” crash early in decade:

- According to BLS, as of May 2008 employment in the IT fields has increased and is significantly above the levels of the dot-com boom, 1999-2001.
- The professional IT workforce added 316,520 jobs between 2002 and 2004, a significant turnaround from the period between 2000 and 2002, when the workforce shrank by 150,150 jobs.
- The professional IT workforce has increased by 12.25% from 2000 to 2008, adding 366,390 jobs, while the overall workforce added 5.4 million jobs during the same time.



Year over year growth for the past decade in the IT field

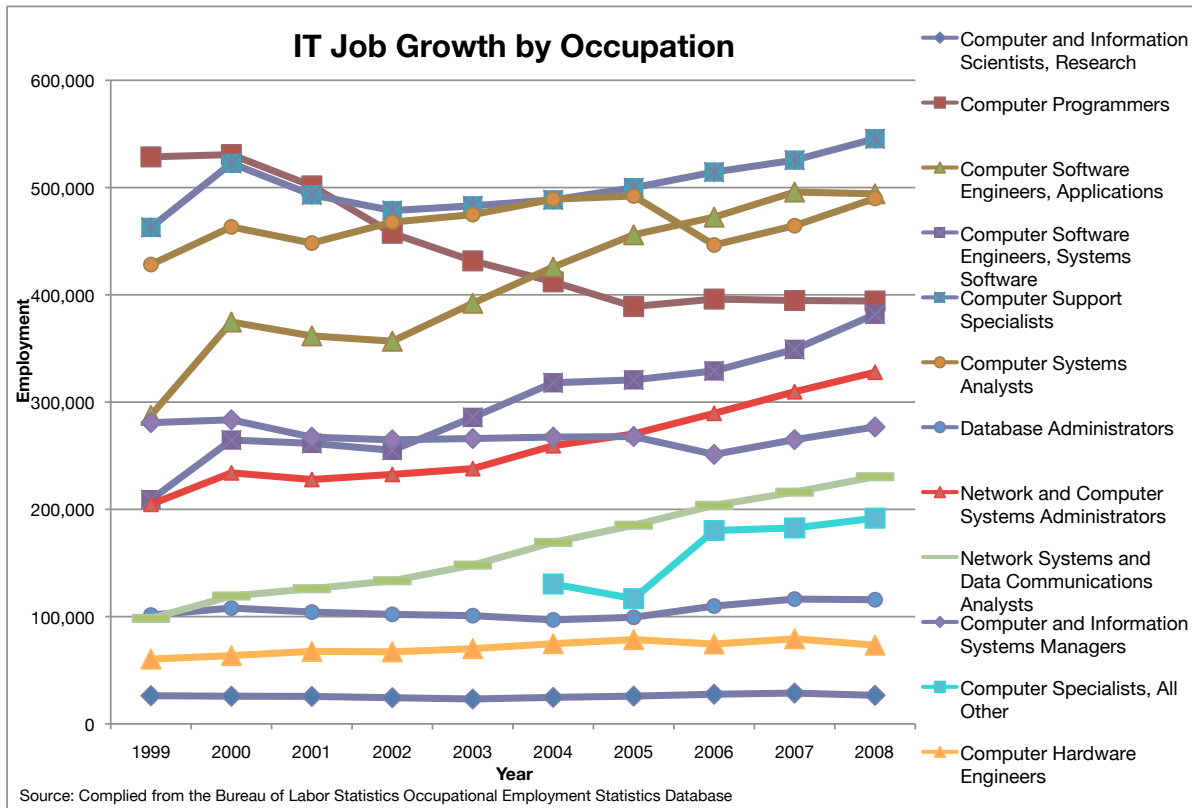


IT job categories

BLS has 12 broad categories representing IT occupations:

- Computer and Information Scientists, Research
- Computer Programmers
- Computer Software Engineers, Applications
- Computer Software Engineers, Systems Software
- Computer Support Specialists
- Computer Systems Analysts
- Database Administrators
- Network and Computer Systems Administrators
- Network Systems and Data Communications Analysts
- Computer and Information Systems Managers
- Computer Specialists, All Other
- Computer Hardware Engineers

Changes in employment for each IT occupation from 1999-2008





Within the BLS occupation categories, Computer Software Engineers, Network and Computer Systems Administrators, and Network Systems and Data Communications Analysts saw pronounced growth over the past decade as detailed in the following chart:

Detailed job figures for each IT occupation from 1999-2008

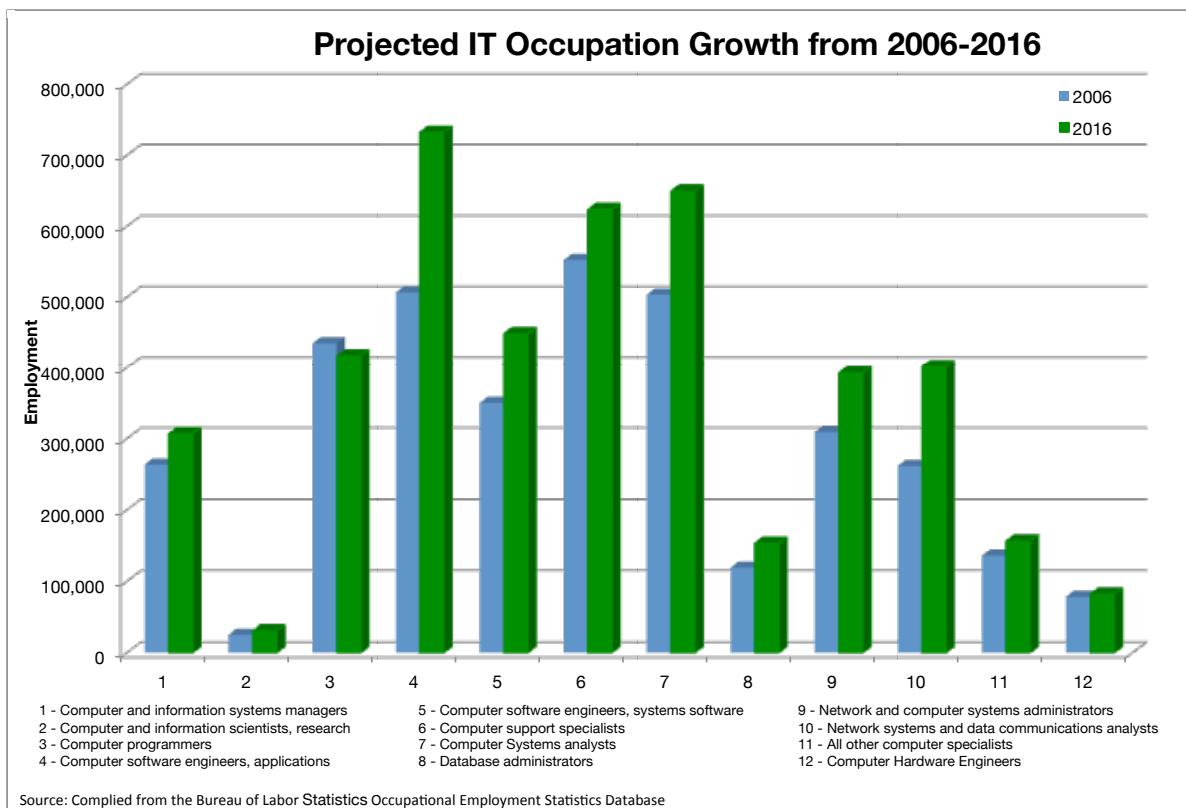
Category	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	% Change From 2000
Computer and Information Scientists, Research	26,280	25,800	25,620	24,410	23,210	24,720	25,890	27,650	28,720	26,610	3.1%
Computer Programmers	528,600	530,730	501,550	457,320	431,640	412,090	389,090	396,020	394,710	394,230	-25.7%
Computer Software Engineers, Applications	287,600	374,640	361,690	356,760	392,140	425,890	455,980	472,420	495,810	494,160	31.9%
Computer Software Engineers, Systems Software	209,030	264,610	261,520	255,040	285,760	318,020	320,720	329,060	349,140	381,830	44.3%
Computer Support Specialists	462,840	522,570	493,240	478,560	482,990	488,540	499,860	514,460	525,570	545,520	4.4%
Computer Systems Analysts	428,210	463,300	448,270	467,750	474,780	489,130	492,120	446,460	464,440	489,890	5.7%
Database Administrators	101,460	108,000	104,250	102,090	100,890	96,960	99,380	109,840	116,340	115,770	7.2%
Network and Computer Systems Administrators	204,680	234,040	227,840	232,560	237,980	259,320	270,330	289,520	309,660	327,850	40.1%
Network Systems and Data Communications Analysts	98,330	119,220	126,060	133,460	148,030	169,200	185,190	203,710	216,050	230,410	93.3%
Computer and Information Systems Managers	280,820	283,480	267,310	264,790	266,020	267,390	267,860	251,210	264,990	276,820	-2.3%
Computer Specialists, All Other	N/A	N/A	N/A	N/A	N/A	130,420	116,760	180,270	182,690	191,780	N/A
Computer Hardware Engineers	60,420	63,680	67,590	67,180	70,110	74,760	78,580	74,480	79,330	73,370	15.2%
Total	2,688,270	2,990,070	2,884,940	2,839,920	2,913,550	3,156,440	3,201,760	3,295,100	3,427,450	3,548,240	N/A



Future Employment Trends

Between 2006 and 2016 the total US employment is projected to increase by 15.6 million jobs, or 10 percent, which is slightly less than the 15.9 million jobs or 12 percent increase from 1996 to 2006. While overall job growth is expected to slow, the increasing retirement of the aging baby boomers is also expected to create a significant number of job openings (which are not counted in the projections of new jobs). The figures below only represent occupation growth.

- Of these 15.6 million jobs, the professional IT workforce is projected to add a little under a million new jobs, (853,517) an increase of about 24 percent.



Net jobs by IT occupation 2006 v. 2016



- Five of the 30 occupations that are projected to grow the fastest (i.e., percentage gain) between 2006 and 2016 are in the IT profession, with 'Network Systems and Data Communications Analysts' being the fastest growing occupation, +53.4%.
- The BLS estimates that the professional-level IT workforce will grow at more than twice the rate of the overall workforce between 2006 and 2016.
- In 2006, there were approximately 3.6 million IT professionals out of a total workforce of 150.6 million.
- In 2016, there are expected to be 4.4 million IT professionals out of a total workforce of 166.2 million.

BLS Job Categories	2006	2016	Percent change	Numeric change	Total job openings due to growth and net replacements 2006-16 ¹
	Total employment	Total employment			
Total, all occupations	150,620,175	166,220,300	10.36	15,600,125	50,731,927
Total, all IT/Computing occupations	3,541,803	4,395,320	24.10	853,517	1,637,595
Computer and information scientists, research	25,261	30,701	21.53	5,440	12,139
Computer programmers	435,076	417,065	-4.14	-18,011	90,845
Computer software engineers, applications	506,751	732,510	44.55	225,759	299,638
Computer software engineers, systems software	350,048	448,679	28.18	98,631	149,664
Computer support specialists	552,458	623,634	12.88	71,176	241,764
Computer systems analysts	503,631	649,571	28.98	145,940	279,507
Database administrators	119,415	153,523	28.56	34,109	46,860
Network and computer systems administrators	309,201	392,536	26.95	83,335	153,907
Network systems and data communications analysts	261,793	401,626	53.41	139,834	193,171
Computer and information systems managers	263,695	306,829	16.36	43,134	85,732
All other computer specialists	135,949	156,509	15.12	20,560	56,615
Computer hardware engineers	78,525	82,137	4.60	3,613	27,750

Source: Compiled from the Bureau of Labor Statistics Occupational Employment Statistics Database

¹Total job openings represent the sum of employment increases and net replacements. If employment change is negative, job openings due to growth are zero and total job openings equal net replacements.

Detailed job growth by occupation 2006 v. 2016