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# 2008 IT Skills and Salary Report

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A Joint Study by TechRepublic and Global Knowledge

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# 2008 IT Salary and Skills Report

The IT profession has experienced dramatic changes within the past 10 years and the pace is not slowing. Just within the past year, we have seen:

- Vista, a new OS from Microsoft
- Leopard, a new OS from Apple
- A new certification program from Cisco
- A new certification program from Microsoft
- A record year for data security breaches
- An increase in the importance of balancing IT and business skills

While the industry continues to grow and evolve, the attitudes, behaviors, and concerns of IT professionals have not changed much from last year's survey. In fact, the results are comparable with the 2007 data as well as with similar surveys conducted by other groups.

### Key Report Findings

- Modest overall salary growth  
This year's average was up 3.25% from our 2007 findings to \$73,963. The number of participants that reported receiving a raise was also up from 68.7% to 80%. However, the average salary increase this year was 4.0% compared to almost 5% last year.
- Education and training impact salary  
The average salary for those with a four-year degree is \$76,446 compared to \$65,712 for a certificate or degree from a technical school. While four-year and graduate degrees offer a more diverse education, additional training and certification also have an impact on salary.
- Why people take training  
An overwhelming majority of 65% indicated that their major motivation for training was to build new skills and knowledge. An additional 9% cited the desire to refresh existing skills and knowledge.
- Multi-tasking and breadth of experience  
Rare are professionals who concentrate exclusively on mainframe or vendor-specific work. It is not uncommon for a network administrator to multi-task, linking Microsoft Vista through Cisco routers against a Linux-based server. As well, we've seen an increase in the popularity of business skills, including project management.

- Confidence in the IT job market  
While employment growth and salaries have risen, an uncertainty in the U.S. subprime market is viewed as a catalyst for caution by some industries. The rapid collapse of IT in 2001, coupled with the speed of change, caused veterans to be mindful and newcomers to consider career paths perceived as less risky.
- Outsourcing/off-shoring of jobs  
IDC reports an increase of 20% annually worldwide, of which the U.S. represents more than \$730 million. There appears to be a consensus that the rise in complexity of the technology and the demand for 24/7 customer response will continue to fuel the need for continued outsourcing of some operations.

### Participant Profile

To reach a wider and more diverse group of IT professionals, this year's survey was conducted jointly by Global Knowledge and TechRepublic. This collaborative effort yielded a total of 7,193 responses. (See page 12 for survey methodology.)

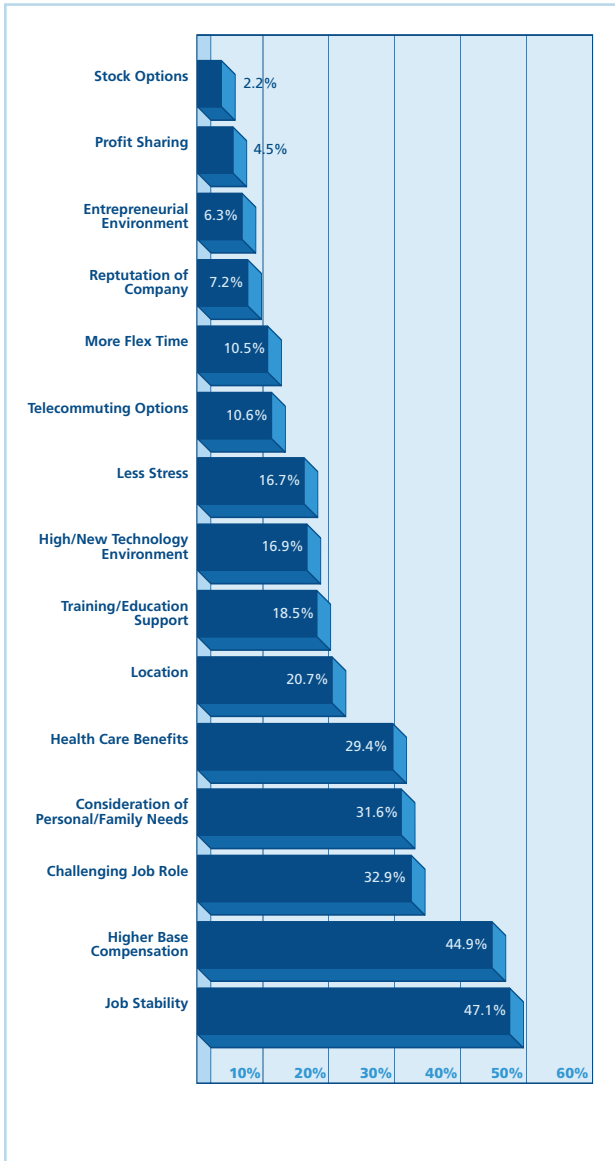
Profile of Respondents	
Base Salary	\$73,963
Received a Raise	80.0%
Raise/Increase Amount	4.0%
Received a Bonus	48.7%
Age	43.0
Years in IT	14.3
Male vs. Female	3:1
Education	59% have at least a 4-year degree

*Figure 1*

The age and experience of survey participants continues to increase. Nearly half of all of the respondents are age 46 or older. As illustrated in *Figure 1*, the average age is 43 and the average time of experience is nearly 15 years. However, the labor pool continues to shrink at the same time that demand for skilled professionals grows. The Bureau of Labor Statistics (BLS) projects that the labor force for the 25-54 age group will increase at an annual rate of only 0.2% between 2006 and 2016.

### Job Satisfaction

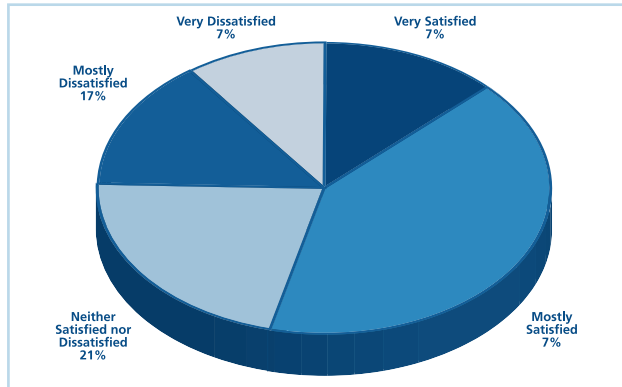
Job stability and a desire for a higher base compensation topped the list of job satisfaction factors, followed closely by a challenging job role and family issues, including health care benefits. Our survey respondents indicated that stock options and profit sharing are the least important factors in rating job satisfaction (see *Figure 2*).



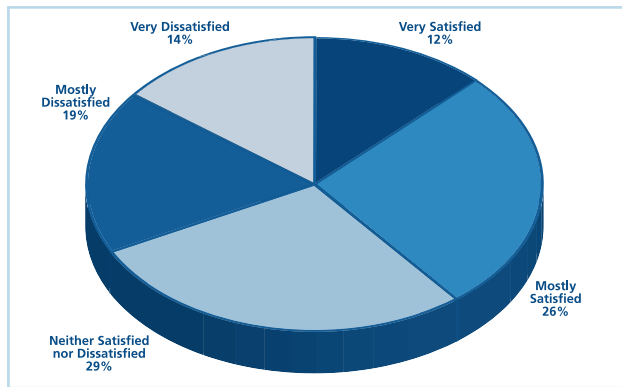
**Figure 2 – Top Job Satisfaction Factors**

Of our survey respondents, 78.7% stated that they were “very” or “mostly” satisfied with their career choice.

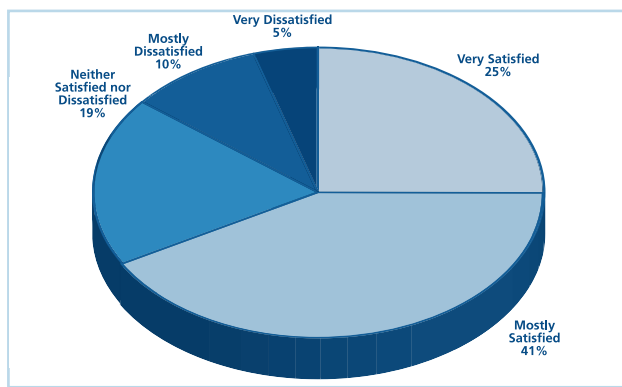
We asked several sets of questions about job satisfaction to glean an understanding of what IT professionals are looking for in their work environments. We’ve learned that most are pleased with their current base salary, but not with their last raise or most recent bonus (see *Figures 3, 4, and 5*). However, the workload and environment were rated better than average by most respondents.



**Figure 3 – Base Salary Satisfaction**

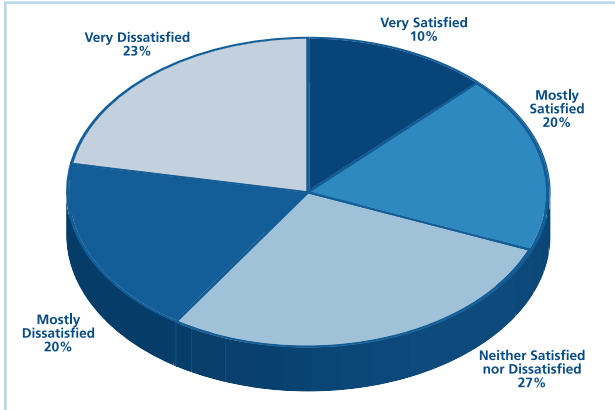


**Figure 4 – Satisfaction with Last Raise**

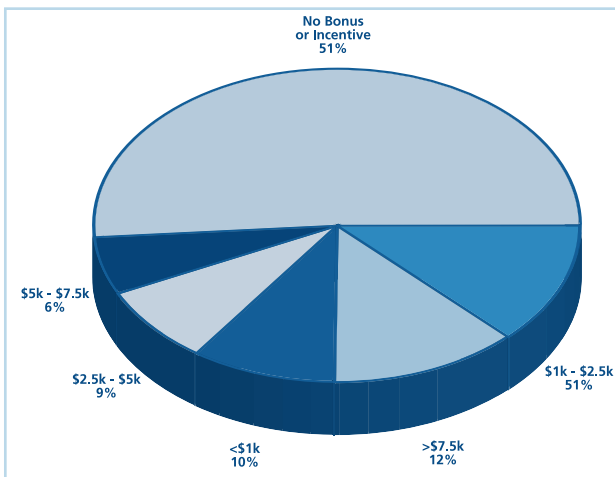


**Figure 5 – Satisfaction with Work Environment**

In addition to their base salary, 49% of respondents received a bonus (see **Figures 6 and 7**). This is slightly down from last year's survey, where 52% received a bonus. The average bonus amount remained consistent. The average for last year was \$3,963, while this year was \$3,937.



**Figure 6 – Bonus Satisfaction**



**Figure 7 – Bonus Received Within the Past 12 Months**

While the prospect of a high base salary is appealing to everyone, compensation can come in many forms. In addition to bonuses, 79.81% reported that their employer offers a 401k or other retirement program, 68.97% received life insurance, 83.61% received medical/dental insurance, and 90.16% received vacation, personal, or sick leave.

**What Concerns Are on the Minds of IT Professionals?**

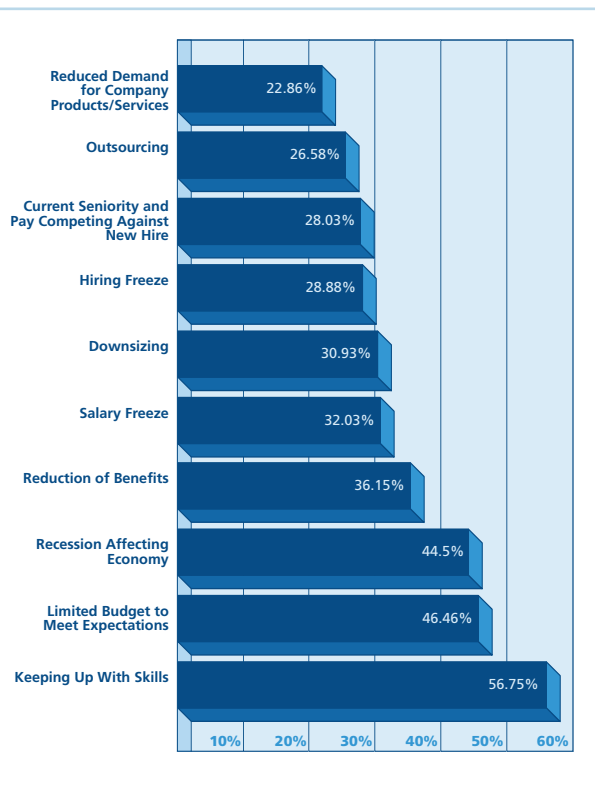
To get some ideas to keep and promote IT staff, we asked questions about what is important to them in considering a new job or staying with their current employer. While concerns about the economy were evident, the number one concern was still keeping up with skills (see **Figure 8**).

**Top 10 Tech Skills You Should Develop**

If you like to be constantly developing new skills, IT is the right field for you. In the late 80s, NetWare and IPX/SPX administration were the skills to have. Today, it's all about TCP/IP and the Internet. Here are 10 skills you should develop to keep on top of things in the tech world in the next five years.

1. Voice over IP
2. Unified communications
3. Hybrid networks
4. Wireless technology
5. Remote user support
6. Mobile user support
7. Software as a service
8. Virtualization
9. IPv6
10. Security

Read more and comment [here](#).



**Figure 8 – Concerns of IT Professionals**

### Who Is Making the Money?

Salary is driven by a number of factors, several of which are correlated or change in importance over time. We analyzed the data by looking at education, experience, certification, training, job level, region, and other key demographics. By a far margin, experience within the field is the single most important factor in determining salary. Even among those in the same age group, education level, and job level, experience tops out.

Nearly half of those responding earn a salary between \$45,000 and \$85,000 per year in nearly equal groups.

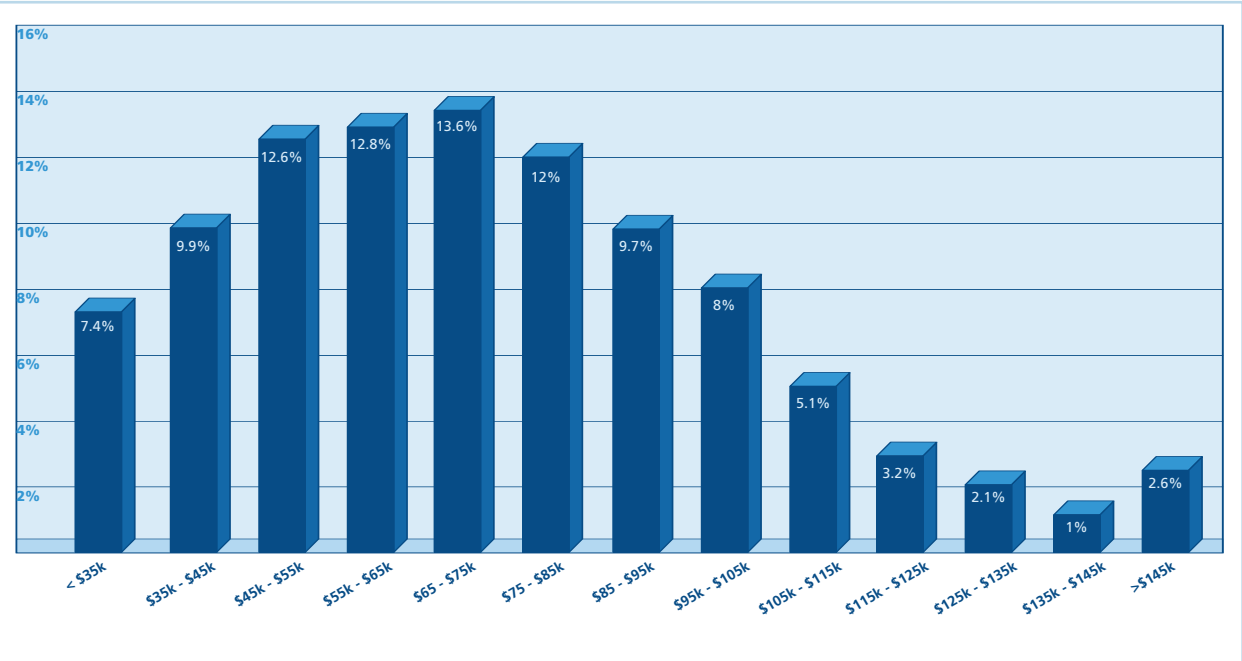


Figure 9 – Salary of All Respondents by Range

Overall, salaries showed a modest increase when compared to last year’s survey. In 2007, the average reported salary was \$71,556. This year’s average was up 3.25% to \$73,963 (see **Figure 9**). The number of participants that reported receiving a raise was also up from 68.7% to 80%. While more people did get a slice of the pie, the piece they received was smaller. The average raise/increase amount this year was 4.0% compared to almost 5% last year (see **Figure 10**).

For the most part, one can choose where to live and work, pursue education, change jobs, or take other action to improve salary. However, external factors substantially change the equation. Recessions, mergers, recalls, and rapidly changing technology are but a few that have impacted the IT professional. Consistent with most reports, 80% of the respondents received a raise in the past year with an average increase of 4.0%, doing a little better than inflation. The majority, 39%, received a standard raise from

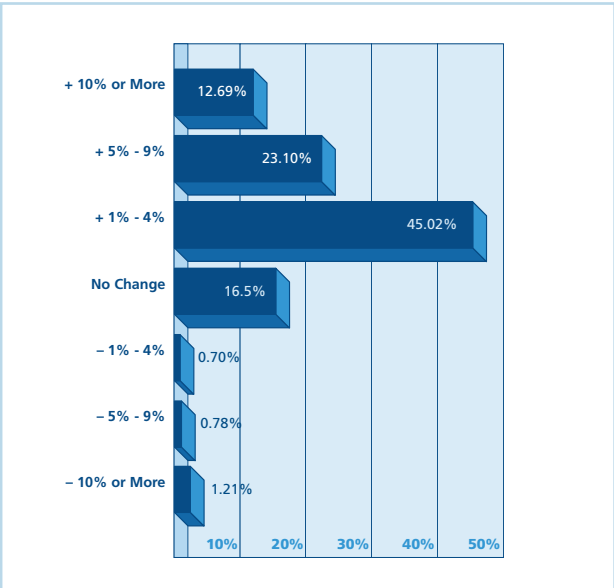


Figure 10 – Change in Base Salary in the Past 12 Months

their employer. Recognizing the changing dynamics of retention, more employers are compensating for performance. Nearly 30% of the respondents received a raise based on performance.

Gender remains a factor in salary differences, even after adjusting for education, experience, and job level, with a variance between 6%-8%. One-fourth of the survey respondents were women, and they were equally represented in the major subgroups. Geography and industry have some impact, but once taken into account, the common denominators are experience, education, and training.

The largest salaries are in the pharmaceutical and defense industries, primarily because of a larger proportion of project leaders and project managers and the need for more IT staff with advanced security skills (see *Figure 11*).

### Where Is the Money Being Made?

When comparing salaries of IT professionals on a regional basis, the Northeast commands the highest pay (see *Figure 12*). However, this number is a little misleading because of the high concentration and salary of professionals residing in New York, New Jersey, and Pennsylvania. The pay of the Middle Atlantic division is tops at \$76,891 compared to \$72,691 for New England.

The South is the only region where the salaries of each division were at or above survey average. In contrast, the Midwest is the only region where the salaries of each division were below survey average.

Salary by Industry	
Pharmaceuticals	\$90,754
Defense Contractor/Aerospace	\$87,082
IT/Technical – Related Software Development	\$84,780
Government – Federal Civilian	\$83,429
Natural Resources – Mining/Oil/Gas	\$83,104
IT/Technical – Related Hardware Manufacturing	\$82,060
Banking/Finance	\$81,816
Professional Services	\$78,151
Insurance	\$77,348
Communications (Telco Cable Satellite)	\$76,630
Manufacturing – Consumer Goods	\$75,273
Government – Military	\$75,200
IT/Technical – Related Services	\$74,859
Transportation/Public Utilities	\$74,154
Natural Resources – Agriculture/Forestry	\$73,529
Media – Print, Film, Music	\$73,484
Manufacturing – Non-Computer	\$71,558
Other	\$70,940
Construction/Architecture/Engineering	\$70,442
Retail/Wholesale	\$69,305
Hospitality/Recreation	\$68,177
Government – State/Local	\$66,380
Education	\$59,394

Figure 11

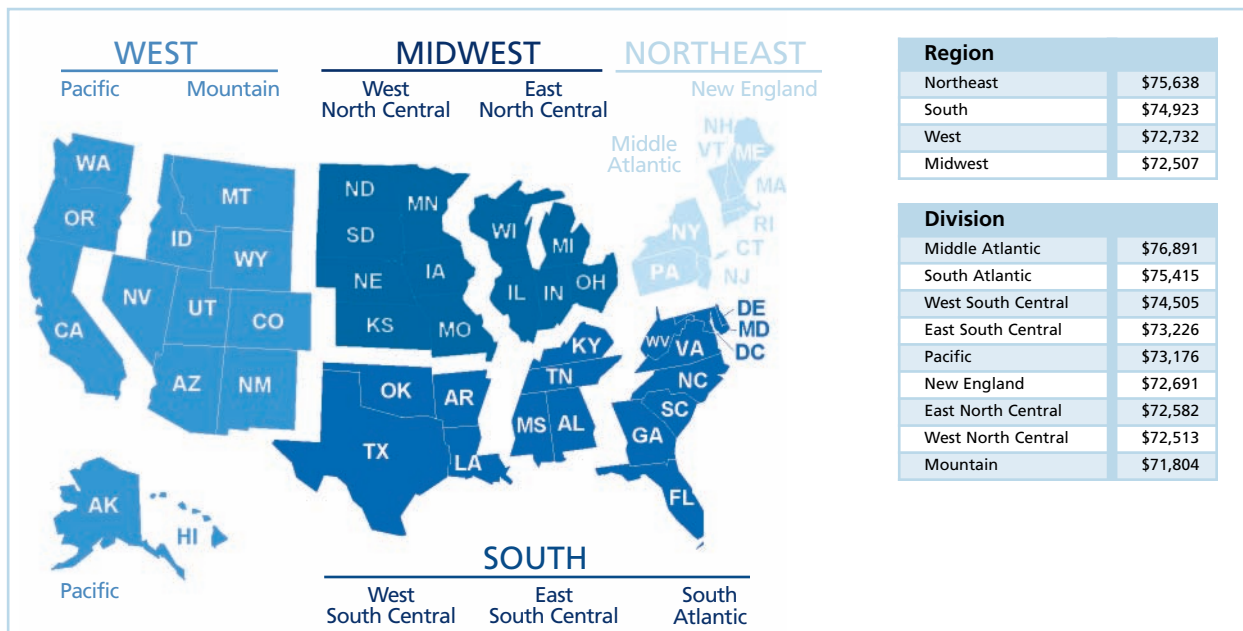


Figure 12 – Nationwide Salary Comparison

When looking at representative salaries by major metro areas, the South region continued to show strong performance by occupying 50% of the top 10 positions. Dallas (#1), Washington, DC (#4), Atlanta (#5), Baltimore (#8), and Orlando (#9) all represented the South region in the top ten. The Midwest showed the greatest variance in the top 25, with Columbus, OH, and St. Louis, MO, showing strong performance and Minneapolis, MN, and Detroit, MI, showing weak performance (see *Figure 13*).

Representative IT Salaries	
Dallas, TX	\$79,783
Columbus, OH	\$79,421
New York, NY	\$78,278
Washington, DC	\$77,952
Atlanta, GA	\$77,753
St. Louis, MO	\$77,350
Philadelphia, PA	\$77,193
Baltimore, MD	\$77,084
Orlando, FL	\$76,984
Sacramento, CA	\$76,556
Austin, TX	\$76,519
San Jose, CA	\$75,754
Boston, MA	\$75,527
Indianapolis, IN	\$74,481
Houston, TX	\$74,177
San Francisco, CA	\$74,016
Kansas City, MO	\$73,611
Chicago, IL	\$72,477
Seattle, WA	\$72,339
Los Angeles, CA	\$71,972
Denver, CO	\$71,703
Minneapolis, MN	\$70,658
Phoenix, AZ	\$70,351
Detroit, MI	\$70,191
Raleigh, NC	\$69,400

*Figure 13*

With the need to do more with less and increase productivity, IT professionals often wear many hats that don't necessarily reflect a specific function. Certainly those with revenue-impacting responsibilities such as executive management and CIOs will top the list (see *Figure 14*). Job level has an impact as well, with middle management coming in at \$78,000, just above the average salary for all respondents.

Salary by Job Function	
Executive Management (CEO SVP VP)	\$104,767
System Architect	\$100,734
Executive IS/IT Management (CIO CTO)	\$99,894
Project Leader	\$90,764
Hardware Design/Engineer	\$90,750
Consultant	\$88,671
Database Manager	\$87,261
Computer Security Specialist	\$85,699
Computer Software Engineer	\$82,418
Network Manager	\$79,827
Business Analyst	\$78,756
Database Administrator	\$78,468
E-business Specialist	\$77,375
Other	\$76,622
Network Engineer	\$75,447
Systems Programmer	\$75,118
System Analyst	\$74,625
QA/software Test Engineer	\$70,649
Database Analyst	\$69,950
Telecommunications Specialist	\$67,614
System Administrator	\$65,567
Network Analyst	\$64,217
Analyst	\$64,119
Trainer	\$63,228
Web/Internet	\$62,658
Computer Specialist - Other	\$57,031
Network Administrator	\$56,277
Non-IT Staff	\$54,079
Admin Support	\$51,819
Help Desk Support	\$48,783

*Figure 14*

### Age vs. Experience

Conventional wisdom tells us that age plays a role in the determination of salary. While this is true to a degree, experience is the dominant factor, followed by education. For example, an individual in the 36-45 age range with 10-14 years' experience earns 6.39% more than an individual with the same experience who is between 46-55 years old (see **Figure 15**).

Experience					
Age	< 2 years	3 - 4 years	5 - 9 years	10 - 14 years	> 15 years
25 and under	\$39,833	\$46,303	-	-	-
26 - 35	\$45,647	\$49,384	\$62,453	\$74,780	\$84,077
36 - 45	\$53,215	\$53,795	\$62,868	\$76,712	\$86,732
46 - 55	\$46,108	\$50,061	\$58,740	\$71,813	\$86,102
56 and over	\$44,690	\$48,429	\$60,387	\$61,326	\$85,391
Total	\$46,169	\$49,796	\$60,960	\$74,184	\$86,129

**Figure 15**

### Education Pays

With respect to education, formal education matters. The average salary for those with a four-year degree is \$76,446 compared to \$65,712 for a certificate or degree from a technical school.

In our 2007 survey, respondents with a four-year degree reported an income 13% higher than those with only some college experience. The 2008 data mirrors this finding with respondents with a four-year degree reporting incomes 13.31% higher than respondents with some college. The impact is further realized when looking at salaries of those with master's degrees. Their reported income is 14.60% higher than those with four-year degrees.

The advantage gained from specific technical or trade schools is often hands-on, focused training. However, IT managers are looking more and more for broader skills in business, marketing, and communications. While four-year and graduate degrees offer a diverse education, further training and certification also have an impact on salary.

### Degrees or Certs: What Counts More?

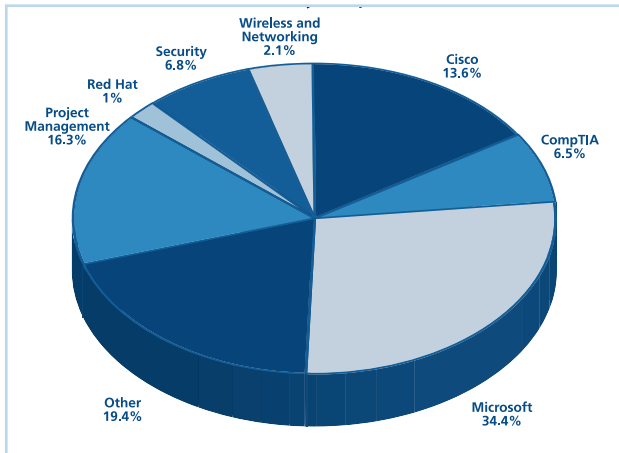
What is more important: degrees or certifications? The answer is, it depends.

Get the facts when you [click here](#).

### Training & Certification

There have been many articles and discussions regarding the value of certification and in general, employer support for certification appears to be mixed. Some have argued that certifications don't matter any more or that they have lost their credibility. Others fear that training someone encourages them to leave their current employer.

For those without a certification, 54% of respondents state that their employers don't require certifications. However, gaining a new certification within the next year is the goal of 42% of respondents. Of those participating in this study, 38% hold at least one certification that they consider primary. As **Figure 16** illustrates, Microsoft remains dominant at 34.4% with Project Management ranked second at 16.3%. On average, respondents have two certifications each.



**Figure 16 – Certifications Held by Respondents**

### Highest Paying Certifications

The number of certifications has grown substantially over the past 10 years. More complex technologies and topics have been the catalyst for higher-level certifications such as the CISSP, CCIE, and PMP. The more advanced certifications require some form of advanced labs, documentation, or other evidence of knowledge that helps ensure the integrity of the certification.



**Figure 17** illustrates the top paying certifications. When looking at the data, keep in mind that the salaries are also experience-based, with most being held by individuals with more than 10 years of experience. The compensation associated with a certification is also correlated to the demand of the skill and the difficulty of achieving the certification.

Average Salaries of Popular Certifications*	
PMI Project Management Professional (PMP)	101,695
PMI Certified Associate in Project Management (CAPM)	101,103
ITIL v2 – Foundations	95,415
(ISC) <sup>2</sup> Certified Information Systems Security Professional (CISSP)	94,018
Cisco CCIE Routing & Switching	93,500
Cisco CCVP	88,824
ITIL v3 – ITIL Master	86,600
MCSD – Microsoft Certified Solution Developer	84,522
Cisco CCNP	84,161
Red Hat Certified Engineer (RHCE)	83,692
MCITP – Microsoft Certified Information Technology Professional – Enterprise Support	82,941
Cisco CCSP	80,000
MCAD – Microsoft Certified Applications Developer	79,444
MCITP – Microsoft Certified Information Technology Professional – Database	77,000
MCDBA – Microsoft Certified Database Administrator	76,960
Red Hat Certified Technician (RHCT)	75,667
HDI Help Desk/Support Center Manager	75,556
Cisco CCDA	75,000
MCSE 2000 – Microsoft Certified Systems Engineer	71,980
CIW – Certified Internet Web Professional	71,000
CompTIA Project+	70,000
CompTIA Security+	68,533
MCSE 2003 – Microsoft Certified Systems Engineer	68,449
Cisco CCNA	64,260
MCSA 2000 – Microsoft Certified Systems Administrator	61,302
MCTS – Microsoft Certified Technology Specialist	60,300
MCP – Microsoft Certified Professional	59,987
MCSA 2003 – Microsoft Certified Systems Administrator	59,877
MOS – Microsoft Office Specialist	55,630
MCDST – Microsoft Certified Desktop Support Technician	49,805
CompTIA Network+	49,053
CompTIA A+	41,726

\* Minimum of 10 responses

**Figure 17**

## 10 Tech Certifications that Actually Mean Something

There are hundreds of tech certifications out there, so how do you know which ones really provide a measure of your knowledge and skills? And which ones will really help you get a job or promotion? Here's a look at 10 of the technical certifications that offer value in today's IT job market.

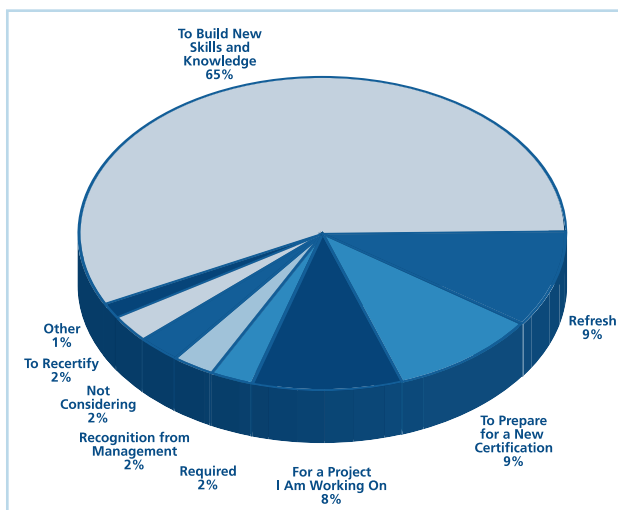
1. Microsoft Certified Technical Specialist (MCTS) or Microsoft Certified IT Professional (MCITP) (formerly MCSE)
2. Microsoft Certified Architect (MCA)
3. Certified Information Systems Security Professional (CISSP)
4. Systems Security Certified Practitioner (SSCP)
5. GIAC Security Expert (GSE)
6. Cisco Certified Internetwork Expert (CCIE)
7. Cisco Certified Security Professional (CCSP)
8. Red Hat Certified Engineer (RHCE) and Red Hat Certified Architect (RHCA)
9. Information Technology Infrastructure Library (ITIL)
10. Certifications for Special Situations (including VoIP)

Read more and comment [here](#).

The reality is that both training and certification matter. The extent to which they matter depends on industry, technology, or circumstance, but they do have substantial influence on salary. In a statistical analysis of the data, experience was the top factor, followed by education. Training was next, followed by certification. This is even including geography. Across the board in nearly every category, there is a substantial statistical significance in salary as a result of education, training, and certification.

In our survey, more than half of respondents stated that certification has had no impact at all on their salary. Despite this fact, 87% indicated that certification was a worthwhile investment. While this would seem to be an oxymoron, it actually serves to validate the top concern of IT professionals, which we established was keeping up with skills. While a certification may not guarantee a spike in salary, it is an effective way for professionals to keep their skills up to date and quantify their knowledge to employers.

What motivates IT professionals to take training? An overwhelming majority of 65% indicated that their major motivation for training was to build new skills and knowledge. An additional 9% cited the desire to refresh existing skills and knowledge (see **Figure 18**).



**Figure 18 – Why Take Training?**

While money may not be the primary reason that professional pursue certification, training, or degrees, the correlation between knowledge and pay is real. **Figure 19** compares the salaries of a network analyst and a systems administrator based on their education levels. The data clearly illustrates that optimal salary is achieved by combining formal education with certification and skills-based training.

Network Analyst	Salary
4-Year Degree, Training, Certification	\$74,285
4-Year Degree, Training, No Certification	\$66,000
4-Year Degree, No Training, Certification	\$64,000
4-Year Degree, No Training, No Certification	\$61,200
Systems Administrator	Salary
4-Year Degree, Training, Certification	\$68,236
4-Year Degree, Training, No Certification	\$65,033
4-Year Degree, No Training, Certification	\$63,933
4-Year Degree, No Training, No Certification	\$63,812

**Figure 19**

### Training and Your Employer: Who Pays and Who Benefits?

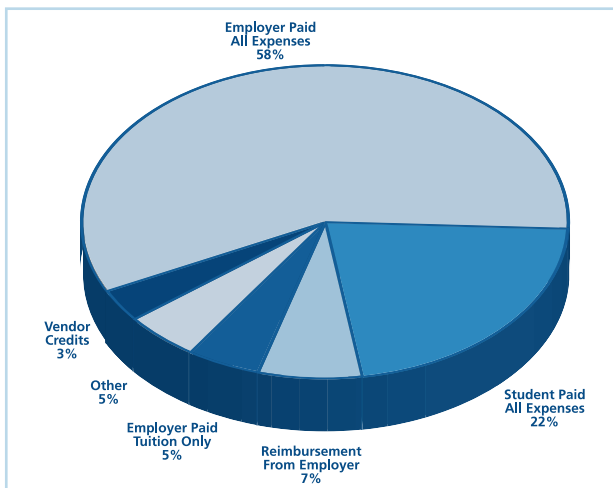
For some companies, training is still viewed as an expense rather than an investment. Even when viewed as an investment, some managers consider it as an investment for their competitor or someone else under the assumption that a trained employee will leave. However, our data, and other industry research, does not support this theory.

Nearly 43% of the respondents to this survey work in IT departments of less than 10 people with another 17% in staffs between 10 and 25. However, nearly half (47%) work for companies with more than 1,000 employees.

Not surprisingly, there is a correlation between company size and the likelihood that the employer will pay for training. For small companies, nearly half do not offer paid training compared to only 15% of firms with more than 5,000 employees. Yet IT professionals still believe in the value of training. Of the smallest firms (less than 25), the majority of employees still seek training and will pay for it themselves.

Although the idea of tuition reimbursement has been around for some time, it is little utilized for IT training. When available, tuition reimbursement is most often provided for programs that offer a degree from an accredited institution and are for an extended period of time. Typical IT training programs are seminar based or end with a particular certification.

Software and hardware vendors are increasingly offering vouchers for training programs—either their own or those from approved providers. Indeed, from the vendor’s perspective, training reduces help desk calls and increases customer satisfaction (see **Figure 20**).



**Figure 20 – Employer Paid Training Offered Per Year**

## Summary

### For the Industry

In the most recent projections, the BLS estimates that the information sector will be the fastest growing sector of the economy for the next 10 years, reaching \$1.7 trillion in 2016.

Most of this projected growth is expected in telecommunications, software publishing, and Internet. Correspondingly, the three fastest growing occupations are network systems and data communications analysts, computer systems analysts, and computer software applications engineers. The employment for all of IT is only projected to grow at an average annual rate of 0.7 percent. More reliable equipment, industry consolidation, and continued outsourcing are the factors in the slowing rate of employment.

### For IT Pros

The level of your success in satisfaction and in salary is a direct result of your investment in yourself. The demand for the IT professional is increasing, but since critical technical skills are constantly changing, long-term success is achieved by broader education and experience. Even if your employer does not offer tuition reimbursement, continuing education costs provide a return on investment and are tax deductible in many cases.

However, don't count on riding the coat tails of a rise in IT demand. Globalization and increased network interaction increases the competitive job pool. Again, the differentiation will be on proven skills and experience.

### For IT Managers

In a recent study by IDC (commissioned by Symantec), continuous effective training was identified as a significant factor in increasing the productivity of an IT team by 10% or more.

Satisfied and motivated employees are productive employees, willing to go the extra mile in sharing the risk and reward of investment. As our research found, those with fewer opportunities to continue their skills development are more likely to leave their position, even at a pay cut. Perhaps it's time to revisit your tuition reimbursement program to include IT training from a trusted vendor.

Consider that replacement of skilled staff is an expensive and time-consuming process. The American Society of Training and Development (ASTD) estimates that the full cost to replace a professional is 150% of the annual salary. With an average IT salary of about \$74,000, the investment necessary is \$110,000. These costs include recruiting, vacancy costs, productivity losses, and training.

In a fast-changing competitive landscape, firms cannot afford to lose the core of their business intelligence. In this report, 24% of the respondents stated they are considering changing employers within the next year. Even those reporting high satisfaction with workload, work environment, and base salary are seven times more likely to consider changing employers.

### **Survey Methodology**

This Global Knowledge/TechRepublic salary survey was conducted via the Internet over a two-week period from October 11 to October 26, 2007. More than 1.6 million email invitations were sent to individuals from the sponsors' databases and from partner databases. Links were also provided on newsletters. With 7,193 respondents, the margin of error is less than +/- 0.12% at the 99% confidence interval. Although the entire survey is statistically significant and holds true in categories, specific certification and job function salaries reflect a much smaller number of respondents. This report illustrates trends and relationships within the IT industry. It is not designed nor intended to be a compensation study for the determination of specific salaries. Advanced modeling and data correlation was done with SPSS v14.

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### **About the Author**

Michael Chevalier is a Senior Project Analyst for Capital Analytics Inc. based in Durham, NC. He is a veteran of more than 20 years of experience in sales, economics, and marketing research in technology industries. He holds a BA in Management Economics and a MBA in Marketing.

### **Contributing Editorial**

Global Knowledge and TechRepublic staff writers.

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