



Global Knowledge®



2012 IT Skills and Salary Report

A Comprehensive Survey from Global Knowledge and TechRepublic



Introduction

The end of 2011 saw continuing signs of an on-again, off-again economic recovery. The European debt crisis, the continuing housing market correction, lack of access to credit, natural catastrophes, downsizing of governments at all levels, and a general unwillingness (or inability) of businesses to hire in earnest have been contributing factors. In a global economy that is highly interconnected, any one of these factors could put a damper on progress and cause negative changes to a profession. Yet as 2012 gets under way, there are reasons for optimism.

This year's salary survey, the fifth in partnership with Global Knowledge and TechRepublic, sought to highlight the sources and drivers of that optimism. To that end, questions were added that yielded deeper insight into growing segments of the market, including application development, business service management, and IT governance. For the first time, questions specifically for non-IT professionals were included.

More than 9,500 IT and other professionals from around the globe responded to the survey, which was fielded online from October 10 to November 18, 2011.

Respondents from the United States and Canada accounted for 76% of all responses (N = 7,218). See page 25 for complete survey methodology.

Respondents' average salaries increased this year—an optimistic sign. The average (mean) salary for the current survey's respondents was \$84,552, up 6.2% from the 2011 survey. This represents a 14.4% increase over the \$73,900 recorded in the first study (2008). Average salary for IT professionals was \$84,258, with non-IT respondents averaging \$86,274. See **Figure 1**.

Another reason for optimism: nearly two-thirds of respondents (63%) reported receiving a raise, up significantly from 54% for last year's respondents. This is up from 43% in 2010 but still off from the 80% mark set in 2008. Performance in their current position was the primary reason for receiving a raise, mentioned by over half of the raise recipients. In the current study, 29% reported their salaries were capped without a raise. This is down 10 points from the prior year. Eight percent of respondents reported receiving a salary cut, consistent with the 2011 study. The percentage of respondents reporting they received a bonus is up eight points over the prior year's study (48% vs. 40%). This represents a nine-point gain from the nadir set in 2009 (39%) and is back in line with figures from 2008.

A third reason for optimism is that the demand for tech professionals is expected to grow in 2012. According to a study conducted by Dice.com in November 2011, 65% of respondents (hiring IT managers and recruiters) said their companies or clients plan to increase their staff in the first half of the year. One in four respondents reported they plan to grow their staff by

Figure 1

Participant Profile

	2012	2011	2010	2009	2008
Base Salary	\$84,552	\$79,579	\$82,115	\$81,600	\$73,900
Received a Raise	63%	54%	43%	70%	80%
Raise Percentage	5%	7%	10%	6%	4%
Received a Bonus	48%	40%	39%	46%	49%
Average Bonus	\$5,920	\$7,926	\$8,654	\$8,575	\$3,937
Age	44	44	43	42	43
Tenure (Years)	16	16	15	15	14
Male vs. Female	3.7:1	3.6:1	3.9:1	3.3:1	3.0:1
College Degree	70.4%	67.8%	69.7%	66.7%	59.0%

more than 20%. Technical employees with six to 10 years of career experience will be the most sought after, followed by those with two to five years of tenure.¹

The hiring trend reported by Dice is consistent with the sentiment of respondents to the current salary study. Overall, 52% of respondents reported they were looking or will be looking for a new position in 2012. This is up from 38% in the 2011 study. The percentage of respondents reporting a desire to change employers ranges from 33% for those who felt compensated fairly to 65% of those who felt undervalued. The percentage of those who were compensated fairly and considering a new position increased 12 points between the 2011 and 2012 studies (21% vs. 33%).

On average, those respondents who received a raise saw an increase in salary of 5%. Raises were received across all IT job functions, but the gain was not consistent. Respondents in data center, database administration, security, and servers and storage saw the biggest salary gains between last year and this year. The percentage receiving a bonus was up, but the average size of that bonus was down 25.3% over prior year (\$7,926 vs. \$5,920).

Demographically, the respondents look similar to prior years. Average age was 44, with average career tenure of 16 years. The percentage of male respondents was consistent with prior years at 79%. Seventy percent of respondents had an undergraduate or graduate degree—more than in prior years. See **Figure 1**.

Can Our Work Bring Us Satisfaction?

“*I feel sorry for the person who can't get genuinely excited about his work. Not only will he never be satisfied, but he will never achieve anything worthwhile.*

— Walter Chrysler

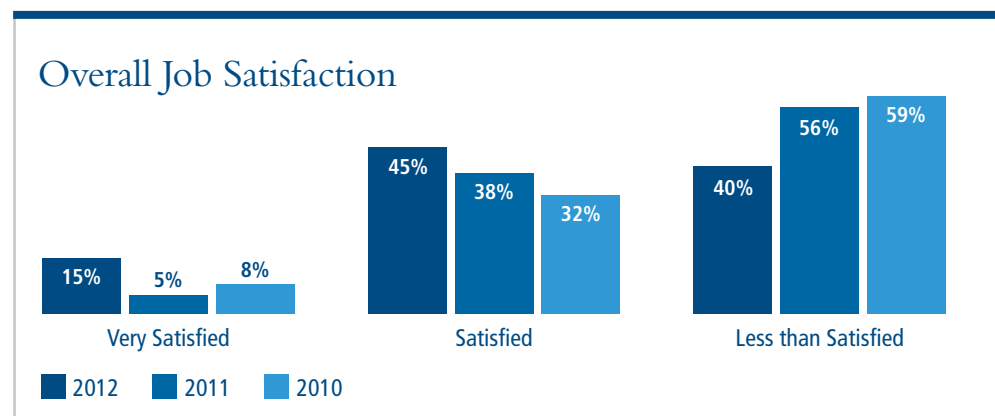
As in previous editions, the 2012 survey included several questions designed to determine the relationship between training, salary, and an employee's sense of professional satisfaction. It has been said that job satisfaction is more than a function of salary. In fact, job satisfaction is a complex emotional concept, typically related to the ability to fulfill one's potential while making a difference. This year's data confirms that idea, providing insight into the relationship between a respondent's sense of work satisfaction and other variables such as job

security, compensation, ability to train, and numerous demographic factors.

Job satisfaction among IT professionals appears to be rebounding from its low point in early 2010. The Corporate Executive Board, a Washington-based advisory firm, reported that satisfaction in the IT ranks reached an all-time low from late 2009 through early 2010. Based on its survey of approximately 10,000 IT employees, the percentage of “highly engaged” employees, those willing to put in extra time and effort to solve problems, reached a low of 4% (down from 12% in 2007).² In our current survey, job satisfaction showed a significant gain. Sixty percent of respondents reported being satisfied or very satisfied with their current position, up from 43% in 2011. Those reporting being very satisfied with their current position increased to 15%, up from only 5% in 2011 and 8% in 2010. See **Figure 2**.

Perceived job security is critical to, and strongly associated with, job satisfaction.

Figure 2



There were significant shifts in respondents' perceived job security, with more expressing security or insecurity this year (33% and 31%, respectively) and fewer expressing neutrality.

Further, of those who expressed feeling secure in their position, more than 70% were also satisfied with their position. The level of job satisfaction declines to 31% for those who felt insecure about their current position. Those who felt more secure in their jobs believed they were paid fairly for their work, earned a certification within the last five years, tended to be younger (under 40), and worked in IT positions, specifically in data storage, servers, and information security. Older workers were less likely to feel secure in their current position. **Figure 3** illustrates the strong association between job security and job satisfaction.

Why are security and satisfaction important? They both heavily impact an employee's will-

ingness to seek a new position. In the current study, over half of the respondents (52%) reported an interest in finding new employment (up from 33% in 2010). Interestingly, the percentage of respondents who were looking for new positions and were satisfied with their current employer has more than doubled since 2010 (36% vs. 15%). It appears that respondents are moving beyond a sense of gratitude for simply having a job into a position of taking charge of their careers and their earning potential.

Though it is not the only variable in the equation, compensation impacts job satisfaction. One's work environment, perceived level of peer and managerial respect, and opportunities for training and advancement factor into an employee's level of satisfaction at work. With that said, those who considered themselves to be paid equitably were more satisfied than their peers who were on the fence or believed themselves to be underpaid.

Figure 3

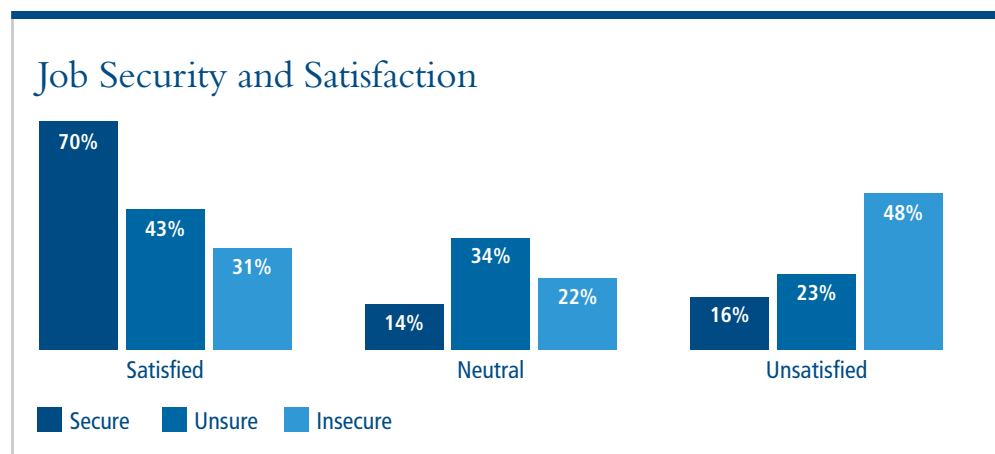
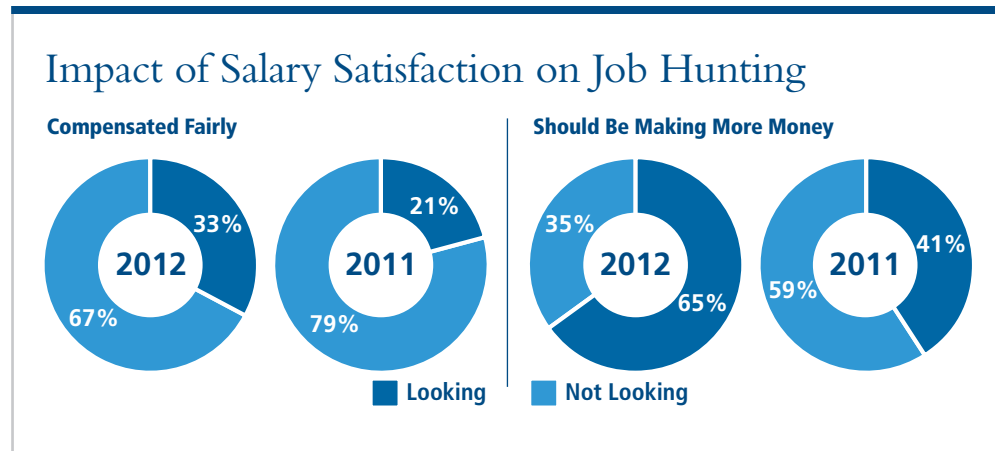


Figure 4



A sense of fairness around compensation also drives one's desire to pursue new employment. One-third of respondents who considered themselves equitably paid were engaged in a job search. This figure is up 12 percentage points over last year. Nearly two-thirds of those who believed themselves to be underpaid were job hunting—24% more than last year. See **Figure 4** for more on these trends. These statistics point to an increased desire among both IT and non-IT professionals to seek better compensation. Projections for salary increases by technical professionals who stayed in their current position range from 0%–3%, while those who took a new position expected to see a bump of 15%–20% in total compensation.

Survey respondents were asked if they had considered leaving their field, relocated for a new position, or changed employers. The percentage of IT respondents who considered leaving their field during the 12 months prior to the survey increased in 2012 (35% vs. 29% in 2011). Approximately one-fourth of respondents changed employers, similar to the prior year. Respondents who reported being unsatisfied with their position were twice as likely to have considered leaving their field (54% vs. 26%). This group also felt a higher level of insecurity about their jobs and was more apt to have received a salary cut than a raise.

Acquiring New Skills and Sharpening Existing Ones

“*Learning is an active process. We learn by doing. Only knowledge that is used sticks in your mind.*

— Dale Carnegie

Technology is ever evolving, feeding the consistent need for training the IT workforce. Over three-fourths of respondents took some form of training in the prior year, consistent with 2011 figures and up from 66% in the 2010 survey. Consistent with previous surveys, the majority of those who trained (67%) did so to build new skills. As additional evidence that we are moving beyond just being thankful to have a job, the percentage of respondents who reported they

trained with an eye on increasing compensation rose from 34% in 2011 to 39% in the current survey.

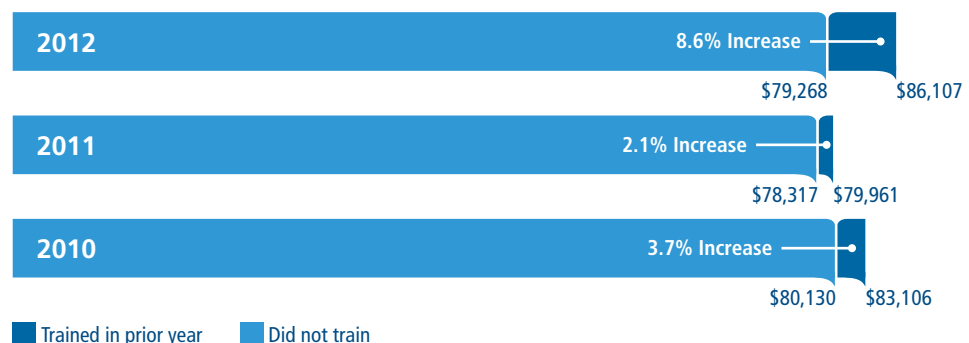
Does training have an impact on compensation? There is a strong perception that it does. In this year's survey, 80% of respondents said they believe training increases their base salary. That's up from 74% in 2011 and 64% in 2010.

This belief was consistent across gender and age, but it varied somewhat by job role, size of the IT department, industry, and tenure. Respondents who hold expertise in networking, communications, or servers and storage believed strongly that training impacts salary. Those in web or application development did not hold the belief as strongly.

As illustrated in **Figure 5**, respondents confirmed that training positively affects

Figure 5

Impact of Training on Base Salary



salaries. Those who trained in the prior year earned an average of \$6,839, or 8.6% more than those who did not train (\$86,107 vs. \$79,268). The difference is more pronounced than in prior years, with the gap at 2.1% in 2011 and 3.7% in 2010. The difference is most pronounced for those in the middle stages of their career, with a positive salary differential of 7%–14% for those with 7–20 years of tenure. The salary gap is also significant for those who earned a certification in the prior five years (\$86,988 vs. \$80,430 or 8.2%).

Information Seeking: How IT Professionals Stay Up to Date

More than 80% of IT professionals reported using the Internet to research topics of interest. More than 70% downloaded a white paper, and approximately the same percentage took a lunch hour to view a webinar. As for formal training, 44% attended an out-of-office training session, and 47% participated in self-paced online training.

Informal methods continue to be popular for staying current on the changing landscape. Over half of the respondents (58%) reported they engaged in an informal training session while at work. Such training could be in the form of attending a “lunch and learn” session, viewing a webinar, following an online community, or downloading an educational mobile application.

Professionals in the technology space employ several learning methods. Three out of four IT professionals attended traditional

instructor-led classroom courses. Over two-thirds employed printed study materials to prepare for exams and research solutions to existing problems. Online self-directed courses and DVDs, or e-books, were also used. One-on-one mentoring and study groups were used less often. With the variety of content delivery options available, traditional classroom training is still viewed as the gold standard.

Overall, IT professionals are avid information seekers. They strive to gain new skills, test new software and hardware, increase their earning power, study for certification and specialist exams, or prepare themselves to qualify for new positions. Six out of 10 respondents undertook six or more activities in their efforts to stay current. These “Information Seekers” were more apt to pursue learning and networking opportunities, both formal and informal. They were more satisfied on the job and tended to be involved with project management or business process improvement while pursuing new career opportunities. Not surprisingly, their efforts paid off with a significant salary differential. Information Seekers earned 8.7% more than their counterparts who utilized three to five information-gathering activities (\$87,888 vs. \$80,836) and 18.9% more than those who used fewer than three information-gathering activities in the prior year (\$87,888 vs. \$73,905).

Why We Train

Training takes time, money, and energy. It often takes people out of the office and off key projects and billable hours. With this

in mind, why do IT professionals seek out training? For three years running, the top reason has been to build new skills. In the latest survey, preparation for a career certification or specialist exam moved back to the number two ranking. See **Figure 6** for comparisons.

As continued evidence of the desire to improve compensation and employment position, this year's rankings for certification preparation, career advancement, increased compensation, and gaining management recognition all rose over last year's survey.

Preparation for new product or software deployments, while still significant, fell to number four in the rankings, down from the second spot in 2011.

The decision to train is typically not due to a single reason. Fewer than 10% of respondents reported they trained with a single intention. On average, the decision process involved an attempt to meet four separate needs through training. This number varied significantly, with Information Seekers indicating they used training to solve five separate needs compared to three for the

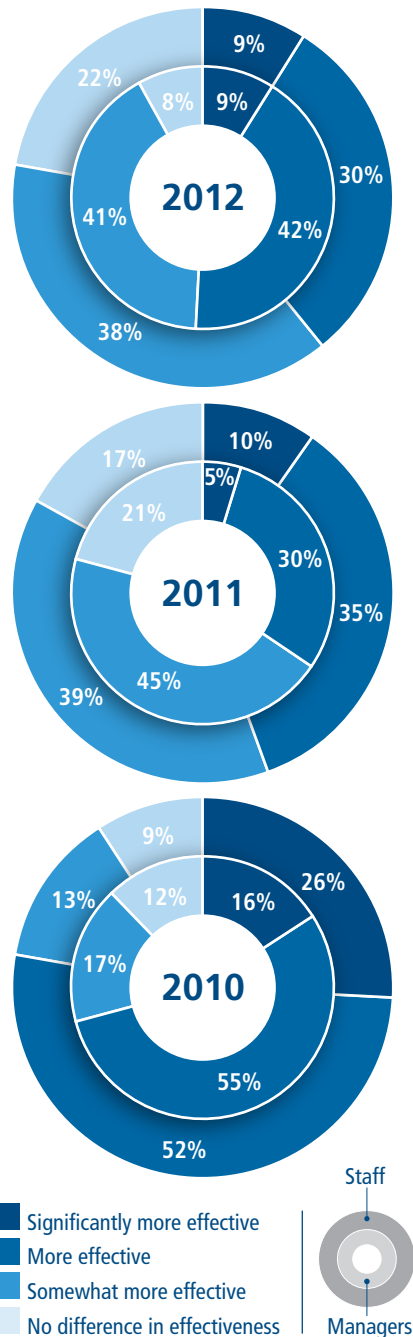
Figure 6

Reasons for Training

	2012		2011		2010	
	Percent	Rank	Percent	Rank	Percent	Rank
Build new skills (not related to a new software deployment)	67%	1	67%	1	80%	1
Prepare for a career certification or specialist exam	50%	2	46%	3	50%	2
Advance my career to qualify for a different job	46%	3	41%	4	46%	3
Prepare for a new product deployment or software upgrade	45%	4	46%	2	41%	5
Increase my compensation	39%	5	34%	6	34%	7
Work with cutting-edge technology	39%	6	38%	5	42%	4
Solve a particular problem	29%	7	32%	7	30%	8
Requirement by employer	29%	8	32%	8	27%	9
Gain recognition from management	28%	9	24%	10	21%	11
Evaluate new products for possible purchase	24%	10	26%	9	35%	6
Prepare for a career change	21%	11	17%	11	23%	10
Recommended by colleague	13%	12	12%	12	11%	12
Prepare for channel specialization or designation	10%	13	11%	13	9%	13
Government mandates (e.g., 8570.1 initiative)	8%	14	7%	14	8%	14

Figure 7

Post-Certification Effectiveness



“Unaware” segment. Information Seekers were twice as likely as the Unaware to use training to prepare for a channel specialization or to evaluate new products. They were also more likely to take advantage of training as a means to work with cutting-edge technology, gain recognition from management, or resolve a particular problem.

Certifications: Are They Worth the Time and Effort?

Six out of 10 respondents who reported they took training did so to pursue a certification or recertify. This is a higher percentage than the last two studies. It increases to 68% for those respondents who indicated they took project management training, which is strongly certification focused and has continuing education requirements. More than 80% of respondents who reported taking certification training believed it would impact their base salary. This is up significantly over the prior year (82% vs. 58%) and is in line with other study data that points to increasing desire to expand professional opportunities and compensation.

Does certification training impact job performance? Staff and managers agree that it does. After rising from 12% in 2010 to 21% in 2011, the percentage of managers who reported no change in staff effectiveness after certification fell to 8% in the current survey. More impressive, the percentage of managers reporting their staff was more effective or significantly more effective on the job after receiving certification rose to 51%, up from 35% in 2011.

The perception held by staff that earning a certification positively affects post-job effectiveness has declined slightly. In the current survey, 39% felt they were more effective or significantly more effective on the job after completing their certification training. This is down from 45% in 2011 and 78% in 2010. See **Figure 7** for more on this trend.

Despite a downward shift in respondents' opinions on job effectiveness, they still view certifications as a worthwhile career investment. Over two-thirds of respondents who certified within the previous five years reported they felt efforts to obtain a certification were worth the additional commitment. This percentage is unchanged compared to last year's survey and down slightly over previous years. Consistent with previous surveys, half reported they perceive their certification efforts to be of value to their company.

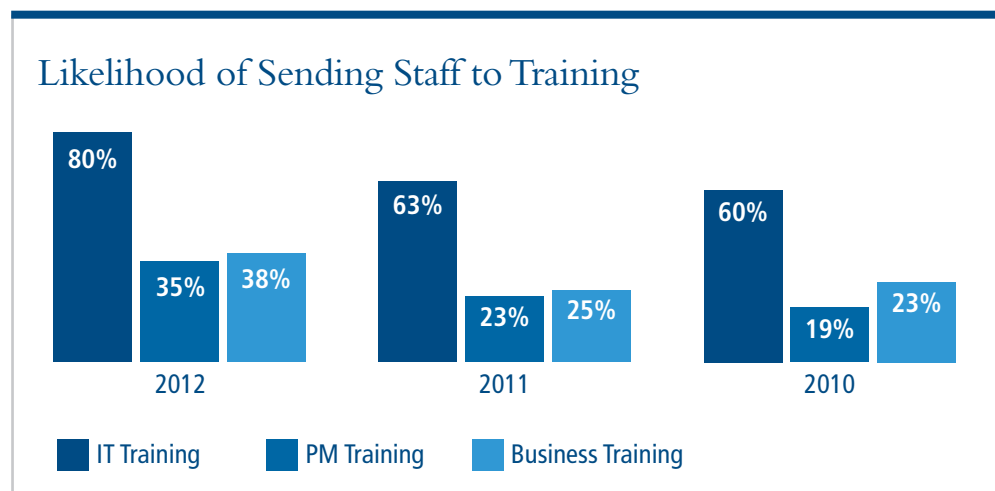
A higher percentage of respondents said employers support and recognize the value certifications provide.

Conversely, there is a decreasing trend in the percentage of certified respondents who believe the certification process is overrated. Three out of 10 respondents said the value of a certification has declined. This is consistent across most certification categories, although it does skew up for Microsoft certifications and down somewhat for ITIL® and project management certifications.

Level of Responsibility

IT staff accounted for 58% of respondents, up from 53% in 2011 and 48% in 2010. Overall, fewer than one-third of IT respondents held supervisory responsibilities. Among managers, over half had budget responsibility and 68% were called upon to make hiring and training decisions.

Figure 8



Respondents who make training decisions were asked to estimate the likelihood of sending their team members to training in 2012. Gains were seen across all three training areas—IT, project management, and business—with an 80% planning to send their staff to IT training in 2012. Over one-third of this group plans to send staff to project management and/or business training this year, both showing gains over prior years. For details, see **Figure 8**.

Three out of four training decision makers said certifications impact a new hire's base salary, up from two-thirds in 2011. However, there continues to be evidence of a shift in the overall view of certifications in the hiring process. As was first seen last year, the percentage of managers who viewed certifications as "very important" in the hiring process continues to hover around 10%, down from 23% in 2010. This view is not consistent across all industry sectors. Aerospace, homeland defense, and systems integrators continue to place more emphasis on certifications in the hiring process. This view could also be a function of the numerous options available to train staff once they are onboard.

The median annual training budget per employee continues to fall in the \$2,000–\$2,999 range, with one-third allocating \$4,000 or more per individual. Firms with training spending above the median clustered in defense and homeland security, aerospace, system integrators, industrial manufacturing, telecommunications, and pharmaceutical research.

Final Word on Training

As the market continues to place increasing demands on technology, we will continue to see the need for training. While the methods used for training will continue to evolve, perhaps more in the direction of informal training or toward modes that do not require travel, the need to keep skills current will not diminish. According to research conducted by IDC in 2008, 60.7% of IT managers believe that the skill level of their team is the critical driver to success.³ This sentiment was echoed by the findings of research conducted in 2011 through the IT Professional Research Panel. The findings, combined with the inherent personal need of technology professionals to continue learning, mean training remains a necessity.

Trends in Base Pay, Bonuses, and Benefits

“Your earning ability is largely determined by the perception of excellence, quality, and value that others have of you and what you do. The market only pays excellent rewards for excellent performance. It pays average rewards for average performance, and it pays below average rewards for below average performance.”

— Brian Tracy

and will work harder and longer to keep it.” The underlying theme in this year’s study is about change, as in, “I have sacrificed for several years now and would like to use this year to change my personal economic position.”

The average base salary reported in the current survey was up 6.2% compared to the prior year (\$84,552 vs. \$79,579) and is the highest average salary since the survey began in 2008. See **Figure 9**. The average for IT professionals was \$84,258 compared to \$86,274 for non-IT professionals.

Compensation has always been important to employees. Following the recent recession, the mood was one of simple gratitude, as in, “I am grateful just to have a job

This year, a higher percentage of respondents received raises, stepping up to 63% after reaching a nadir of 43% in 2010. See **Figure 10**. Although this figure has not

Figure 9

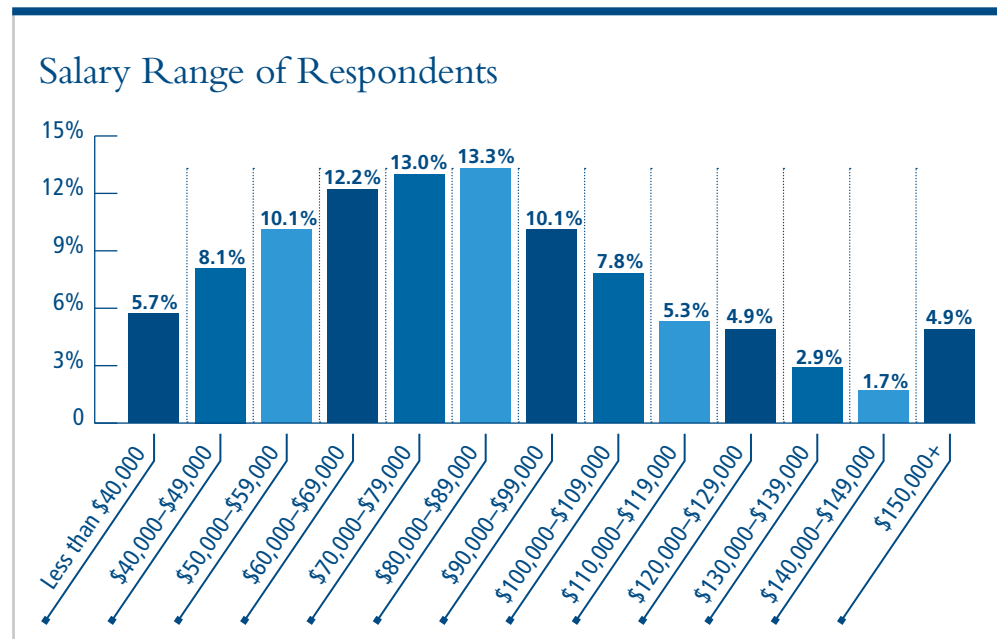
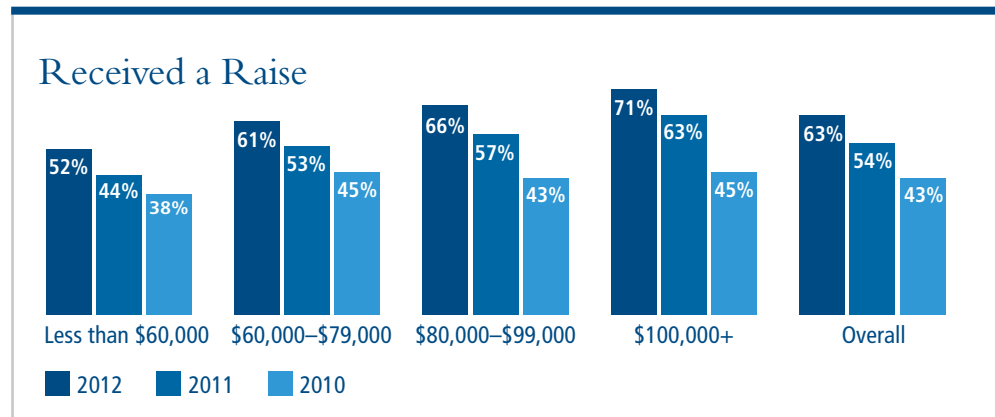


Figure 10



returned to prerecession levels, it is moving in a positive direction. Interestingly, the average raise realized was 5% (\$4,228) compared to a 7.1% raise (\$5,810) in the prior year. The likelihood of receiving a raise was not equally distributed across the salary range. For example, those earning less than \$60,000 were significantly less likely to see a raise than those earning above that mark. This is consistent with data from the prior year.

Other factors are associated with an increased likelihood of receiving a raise. Respondents more likely to see a raise included those working in larger companies (5,000+ employees), with IT staffs of 100 or more, in the age range of 25–39, with up to 13 years of career tenure, and working in systems architecture and engineering, security, and telecommunications. Managers were not more likely to receive a raise than staff, and neither gender was more or less likely to receive a raise.

One's industry, and its position in the economic cycle, is significantly associated

with the likelihood of seeing a raise. Overall, 63% of respondents saw a raise, and respondents from the following industries were more likely to see a raise: aerospace, financial services, insurance, legal, manufacturing, natural resources, pharmaceutical research, logistics, retail, and utilities. Fewer than 63% of the respondents in construction, education, IT services, non-profits, media-related companies, and local, state, and non-military federal government saw a raise.

Respondents were very candid when asked about the reasons for receiving a raise or seeing their salaries cut. Over half of those who received a raise stated it was due to their performance in their current position. This has been the primary reason listed each of the last three years. Cost of living increases and other step increases were listed by over one-third of respondents. One in five respondents stated they received a raise due to either taking on additional responsibilities or developing new skills that brought additional value to the company.

Fewer than 10% of respondents saw their salaries cut. Of those, soft economic conditions were the primary reason reported. Since the bottom of the recession, the percentage of respondents reporting they saw salary cuts due to economic conditions, or as a company response to avoid layoffs, has declined significantly. One in five respondents who saw a salary decrease said the drop was due to a job change. This is down slightly from figures reported in 2011 (22% vs. 25%).

Feelings on the fairness of compensation are strongly associated with receiving a salary increase. Over three-fourths of those who believed they were fairly paid saw a raise. This is up from two-thirds in 2011 (77% vs. 66%). By contrast, 54% of those who felt they were underpaid received a raise.

Those who took training in the prior year were more likely to have benefited from a salary increase (64% vs. 58% of those who received a raise but did not train). Respondents who trained in ITIL, governance, and on Red Hat products were more likely than their counterparts in other areas to receive a salary increase.

There is a significant relationship between salary increases and job satisfaction. Seventy percent of those respondents who reported being satisfied with their position saw a salary increase, compared to 49% of those who claimed to be unsatisfied with their job. From another perspective, over one-third of those who received a salary cut (36%) saw this as one reason for being dissatisfied.

By comparison, those who received a raise were less than half as likely to report being unsatisfied with their job (17% vs. 36%). Not surprisingly, those who did not see an increase were more apt to be undertaking a job search than those who received a raise (63% vs. 48%).

Job mobility is tied intrinsically to salary increases. Respondents who accepted a lateral move to a new employer typically saw an increase of at least 6%, with over one-third seeing an increase of more than 11%. Increased responsibility and compensation are key motivators for accepting an external promotion. This proved to be the case as respondents who accepted an external promotion were twice as likely to see a salary increase of 11% or more compared to those who accepted internal promotions (52% vs. 24%).

Bonus Plans

Over 75% of the IT professionals who responded to this year's survey reported being part of a bonus program. From this group, 48% received a bonus within the last year, with the average bonus being approximately \$5,920 (down 25% over the prior year). Half of those who received a bonus reported that it was 1%–5% of their base salary. Thirty percent reported being bonus eligible in the prior year, but their employers did not give out bonuses. Overall, 22% of respondents indicated they were not bonus eligible. There is a positive association with salary range and bonus likelihood. The percentage of respondents earning under \$70,000 who saw a bonus ranges from

26%–40%. By comparison, as salaries surpass \$90,000, the likelihood of receiving a bonus ranges from 52%–71%.

Benefit Packages

The composition of respondents' benefits packages is showing signs of stabilization. There were marginal differences between IT and non-IT professionals, with techni-

cal respondents having a slightly higher incidence of company-paid life insurance (72% vs. 67%). Two areas showed statistically significant improvement over prior year numbers: 76% of respondents reported having a 401(k) or similar plan (up six points over 2011), and 56% reported having access to employer-paid training (up nine points over 2011).

The Impact of Training and Certification on Salary

“One of the things that may get in the way of people being lifelong learners is that they’re not in touch with their passion. If you’re passionate about what it is you do, then you’re going to be looking for everything you can to get better at it.

— Jack Canfield

Certifications represent a pinnacle of achievement in many professions, especially in the technical arena. They take time, money, and energy to complete. The reasons we pursue them vary, but in the end, most IT professionals believe certifications are a career investment. In fact, over two-thirds of those who earned a certification in the last five years stated it was a worthwhile endeavor. Further, the percentage of respondents who reported receiving a certi-

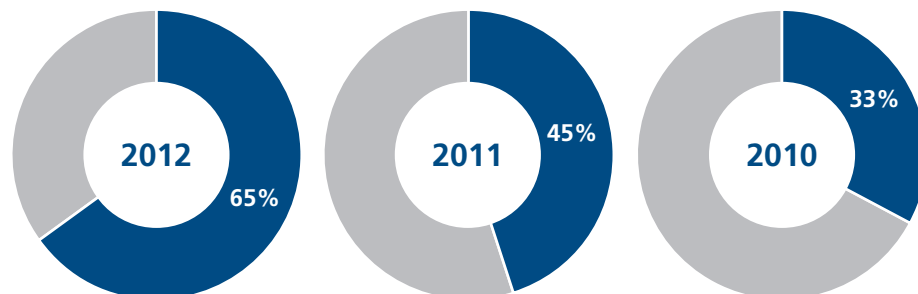
fication within the last five years continues to increase. **Figure 11** shows that 65% of the respondents reported earning a certification within the last five years, up from 45% in 2011 and 33% in the 2010 survey.

Compensation is one reason both IT and non-technology employees pursue certification. Staff and hiring managers agree that certifications impact an employee’s base salary. The percentage of IT staff members who said they believe certifications have impacted their salary rose from 49% in 2011 to 77% in the current survey. A similar upward trend can be seen in the responses of IT hiring managers. In the current survey, 76% of the hiring managers indicated there is a positive impact. This is up from 67% in 2011 and 63% in 2010.

In the current survey, three out of four respondents reported taking training, consistent with 2011 and up 10 points from 2010. From this group, 51% did so to prepare for a

Figure 11

Earned IT Certification Within Last 5 Years



career certification or specialist exam. There is an 8.6% salary differential between those who trained in the previous 12 months and those who did not (\$86,107 vs. \$79,268). This relationship is the strongest it has been in the last three years. The positive association between training and salary was noted across all tenure groups.

The type of training taken is associated with differences in salary. Those who took only IT training saw a significant bump in average salary compared to 2011 (\$78,061 vs. \$73,000). Respondents who took IT and some form of project management or business skills training averaged approximately \$87,374 (up from \$82,000 in 2011). Respondents whose training was exclusively business related, including ITIL or project management, averaged \$95,823 (up from \$87,730 in 2011). By comparison, those who took no training at all averaged \$79,268.

Certifications and Salary

Nearly two-thirds of the respondents (65%) reported earning an IT, project management, or business-related certification in the past five years. This group was asked to select from a broad slate of over 250 certifications across 20 categories, including business process, governance, imaging and printing, database, security, virtualization, and wireless. **Figure 12** highlights survey respondents' top certifications by salary. Twelve percent of those certified (513) held a Project Management Professional (PMP®) certification. Average salary for PMPs was \$111,209, placing this group in the top 20% of salaries.

Cisco Certified Network Associate (CCNA) certification, held by over 940 respondents, Microsoft Certified Systems Engineer (MCSE) certification, and ITIL v3 Foundation certification represent the top three in terms of incidence. Salaries for IT professionals holding these certifications ranged from \$82,923 (CCNA) to \$97,691 (ITIL v3 Foundation). We round out the top five with Microsoft Certified Professional (MCP) (n = 622) and CompTIA A+ (n = 586). Average salary for MCPs was \$79,363 and \$67,954 for those with A+ certification.

Salary by Job Role and Function

Primary job functions were separated out from job roles to provide a clearer picture of salary dynamics. Eleven primary functions were identified along with 16 job roles. Among non-IT respondents, there were a combined 28 job roles and functions listed. Survey respondents were also offered the option to write in an "other" response.

Managers and those who administer or support IT systems averaged 17.4 years of tenure, while their non-IT counterparts had an average of 18.4 years invested in their careers. Salary for IT managers averaged \$95,950, or 2.9% less than their non-IT managerial counterparts (\$98,734). **Figure 13** highlights the year-over-year change by job function.

Approximately 60% of the respondents held staff positions in an IT or non-IT capacity. Salaries for staff ranged from \$75,844 for those in IT functions to \$79,411 for those in non-IT roles. Tenure for staff respondents averaged 14.5 years in IT posi-

tions and 15.7 years for those outside IT. Frontline supervisors accounted for 14% of the IT respondents. This group averaged 15.3 years of tenure and earned an average salary of \$83,841, approximately 11% more per year than the staff they supervise. Middle management accounted for 17% of

the IT group. The average mid-level manager in IT had worked in the field for 17.1 years and earned \$94,175. Senior managers and executives accounted for 11% of the IT respondent base. Average tenure ranged 20–22 years with annual base salary ranging from \$111,046 to \$119,947.

Figure 12

[Click here for a complete list of salaries by certification](#)

Top Certifications by Salary

Certification	Base Salary		
	Mean	Median	Count
Six Sigma	\$116,987	\$104,875	124
Certified in Risk and Information Systems Control (CRISC)	\$115,946	\$110,000	119
Certified Information Security Manager (CISM)	\$112,263	\$110,000	124
Certified Information Systems Auditor (CISA)	\$111,534	\$104,000	109
PMP	\$111,209	\$101,447	513
Certified Information Systems Security Professional (CISSP)	\$110,342	\$104,000	304
CCDA	\$101,915	\$93,000	195
Project+	\$100,862	\$85,000	119
Convergence Technologies Professional (CTP)	\$99,265	\$83,300	118
ITIL v3 Foundation	\$97,691	\$94,000	647
CCNA Voice	\$97,617	\$84,425	100
MCITP: Enterprise Administrator	\$94,240	\$84,000	116
CCNA Security	\$92,430	\$82,000	158
Microsoft Certified Systems Engineer (MCSE)	\$91,650	\$85,000	654
VMware Certified Professional (VCP)	\$91,648	\$85,751	195
Cisco Certified Network Professional (CCNP)	\$90,457	\$86,500	254
MCITP: Server Administrator	\$88,312	\$80,000	161
MCTS: Windows Server 2008 Active Directory Configuration	\$87,694	\$80,000	128
Microsoft Certified Technology Specialist (MCTS)	\$85,546	\$80,000	176
CompTIA Server+	\$84,997	\$80,000	264
Microsoft Certified IT Professional (MCITP)	\$84,330	\$75,000	331
Cisco Certified Network Associate (CCNA)	\$82,923	\$79,950	944

Mean is the sum of all data divided by the number of data items. Median is the middle value in a numerical sequence.

Salary by IT Department Size

Statistically significant differences in average salary were found at all levels of staff size. IT departments with fewer than 10 team members accounted for close to one-third of the responses. This group had the lowest average salary at \$73,621. Respondents working in departments with 10–99 staff members averaged 15.5% more than those in the smallest departments (\$85,012 vs. \$73,621). IT professionals working in departments with 100 or more staff averaged \$21,745 (29.5%) more than those in the smallest departments. This differential is consistent with results from 2011 and 2010.

Salary by Industry

Across all industries, those who manage, implement, and support IT infrastructure play a critical role in the success of their companies and organizations. This year, respondents from the government sector were the largest contributor, followed by those in the financial, healthcare, IT services, and education sectors. Salaries by industry sector ranged from \$66,642 in educational services to \$96,165 in mining, oil, and gas. We round out the top five industries, in terms of base salary, with aerospace (\$95,052), military and homeland security (\$95,787), IT consulting (\$96,473), and non-defense related fed-

Figure 13

Job Function

	2012 Base Salary (\$US)			2011 Base Salary (\$US)		
	Mean	Median	Count	Mean	Median	Count
Data Center	\$90,261	\$85,751	231	\$82,402	\$80,000	411
Database	\$92,338	\$84,000	226	\$83,152	\$81,000	446
Networking (LAN, WAN, Wireless, etc.)	\$75,666	\$72,000	1,250	\$72,355	\$68,900	1,748
Communications (inc. Telecom and UC)	\$80,326	\$75,000	346	\$77,836	\$72,000	514
Applications/Programming	\$90,643	\$85,000	565	\$88,753	\$85,000	1,159
Business Processes (inc. ITIL and Audit/Compliance)	\$97,278	\$92,000	385	\$92,804	\$89,000	576
Servers & Storage	\$83,284	\$78,000	665	\$76,294	\$74,000	1,208
Security	\$98,030	\$95,000	391	\$87,815	\$85,000	401
Web Development	\$81,405	\$80,000	134	\$78,643	\$77,450	245
Operations & Facilities	\$76,512	\$75,000	301	\$72,044	\$65,000	509
Non-IT Function	\$94,128	\$88,500	70	\$85,113	\$79,000	443
Other IT Function	\$83,046	\$77,000	1,542	\$77,415	\$72,000	2,406
Total	\$84,353	\$80,000	6,106	\$79,579	\$75,000	10,066

Mean is the sum of all data divided by the number of data items. Median is the middle value in a numerical sequence.

eral positions (\$92,765). **Figure 14** provides salary data for the top 10 industries.

Geographic Impacts on Salary

Skills, industry, education, and tenure all have an impact on salary. Geography is another variable that cannot be dismissed. Cost of living, economic diversity, overall desirability, and other factors determine a region's employment rate. This economic fact of worker supply and demand can drive salaries up or down across industries.

The average salary of respondents across North America was \$84,552, up 6% from last year's \$79,759. It ranged from \$80,823 in the Midwest to over \$89,900 in the Northeast. Within these broad regions, the

mid-Atlantic region had the highest salary base with an average of \$92,043, followed closely by the south Atlantic (\$88,803) and Pacific regions (\$88,123).

On a state/district level, Connecticut had the highest average salary at \$104,977, due in part to its proximity to the financial and corporate centers in New York. Washington, DC, with its broad base of government, defense, and consulting employees, came in second with an average salary of \$102,366. Virginia, Maryland, and New Jersey complete the top five states for IT salaries. The trends are similar for non-IT salaries.

The lowest average IT salaries were found in Wyoming and the Dakotas, along with

Figure 14

Industry

	2012 Base Salary (\$US)		
	Mean	Median	Count
IT Consulting	\$96,473	\$90,000	427
Natural Resources – Mining, Oil, or Gas	\$96,165	\$93,500	97
Government – Military and Homeland Security	\$95,787	\$86,275	204
Aerospace/Defense Contractor	\$95,052	\$92,500	102
Government – Other Federal	\$92,765	\$90,000	205
Banking, Finance, and Accounting	\$91,061	\$85,000	591
Retail	\$87,945	\$79,650	186
Professional Business Services	\$86,467	\$80,000	180
Telecom and Internet	\$86,173	\$78,000	341
Utilities	\$85,844	\$85,000	134

Mean is the sum of all data divided by the number of data items. Median is the middle value in a numerical sequence.

New Mexico and the more rural parts of New England. These states also have lower costs of living and fewer large employers, both contributing to lower salaries. See **Figure 15**.

Looking Forward

According to Gartner's annual forecast, global IT spending is expected to rise 3.7% to \$3.6 trillion in 2012. Though their 2012 forecast was even higher as of Q3 2011 (4.6%), at the end of 2011, Gartner lowered their 2012 outlook due in part to the European financial crisis and lowered global output of hard drives due to flooding in Thailand. Areas with expected growth above the norm include telecommunications equipment (6.9%), computing hardware (5.1%), and enterprise software (6.4%).⁴

Despite this slightly less optimistic news, other sources point toward longer-term growth for those in technology positions. The Bureau of Labor Statistics of the US Department of Labor projected that the number of employed persons in the US will grow by 14.3% between 2010 and 2020. Employment in computer occupations is expected to grow by 22.1%, with the number of positions in systems software development, database administration, and network architecture expected to grow closer to 30%.⁵

Respondents to this survey reported they were seeing projects being resumed or initiated. Eight out of 10 respondents indicated projects were getting funding; this percentage is up from 62% in the 2010 survey, and

it skews up for several industries: automotive (88%), banking and finance (83%), insurance and legal (86%), healthcare (85%), hospitality (86%), natural resources (89%), system integrators (87%), pharmaceuticals (89%), and logistics (88%).

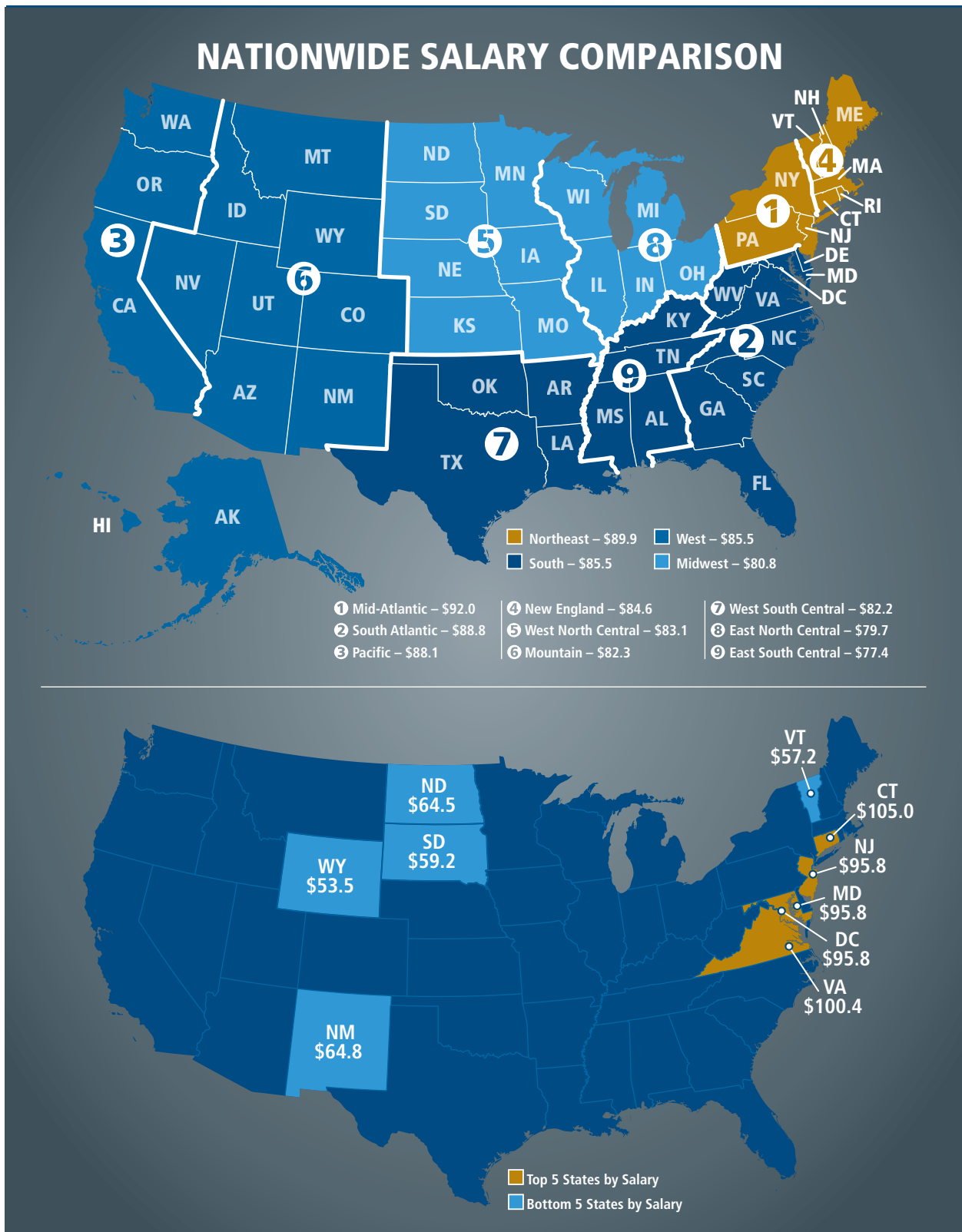
The construction industry, one of the sectors hurt most by the recession, is showing signs of improvement. In the 2011 survey, 64% of the respondents in construction, architecture, and engineering reported projects were being given the green light. This number jumped 11 points to 75% in the 2012 survey. It is still below the norm of 80%.

Several industries continue to face challenging business conditions and do not expect to see projects coming online with as much fervor. These included aerospace (70%), all levels of government (71%–73%), education (72%), and manufacturing (75%).

Respondents were also asked to report on their current and expected business conditions. Over half (58%) indicated that their businesses were either growing slowly or experiencing a period of solid growth. This is flat compared to 2011 (58% vs. 56%), but up 16 points from 2010 (58% vs. 42%). There is a significant relationship between perceived business conditions and projects coming online. More than 90% of respondents who reported business conditions were good also indicated that projects were being funded. By contrast, only 50% of those respondents who reported negative business conditions also indicated projects were being started or resumed.

Figure 15

[Click here for a complete list of salaries by state](#)



The perceived robustness of business conditions skews down for those industries previously mentioned, including nonprofits, aerospace, education, and all levels of government (which accounts for 13% of respondents). Measuring present conditions, only 41% of government respondents reported seeing growth, compared to 60% of non-public sector respondents. Public sector employees are twice as likely to report declining expectations for the first half of 2012 (20% vs. 9% for non-public sector).

The primary concerns facing respondents' organizations are the lagging economy and the perception of increasing government regulation. Current economic consensus leans towards continued limited growth, which means companies may not benefit from a significant influx into their respective markets. Growth will come from being more customer-centric and being able to respond to demands in the market. IT will be tasked with staying flexible enough to allow companies to compete more effectively.⁶ The strongly held opinion that there are not enough resources to keep the ship afloat and sail in new directions will have to be overcome by senior IT management.

Security and virtualization are on the radar for skill sets to be added in 2012. In respect to virtualization, the percentage of respondents reporting this as a needed skill increased from 25% in 2010 to 41% in 2012. Security saw a similar increase in interest. Over one-third (38%) of respondents reported their organizations are looking to

add network administration and development skills (up from 28% in 2011). Expect to see increased interest levels in project management, business intelligence, and predictive analysis in 2012. CIOs who responded to a recent Gartner survey ranked analytics and business intelligence as their top priorities for the year. Mobile technology and cloud computing were also listed as critical.⁷

Summary

Despite the current shadow of slow economic times, there remains a sense of optimism among IT and business professionals. Business cycles rise and fall, and the majority of respondents believe their personal economic conditions, as well as the conditions facing their companies, will improve in 2012.

Respondents and their managers agree that training that leads to certification improves job performance. This increase in employee effectiveness is critical to note as budgets begin to return to previous levels but remain under scrutiny. Skills are not the only ingredient to success in today's fluid work environment. According to research by Leadership IQ, 46% of new hires will fail in the first 18 months of taking a new position. Nine out of 10 of those failures will be for attitudinal reasons, not lack of skill.⁸ The key, then, to job security and increasing one's salary is improving personal job performance both through enhancing the value you bring to the table (skills) and through adopting a mental state that promotes continued learning, collaboration, acceptance of feedback, coping with failure, and innovative thinking.

SURVEY METHODOLOGY

The Global Knowledge/TechRepublic 2012 survey was conducted online from October 10 to November 18, 2011. More than one-half million survey invitations were e-mailed to recipients from the databases of Global Knowledge, TechRepublic, and other partner companies. Links, including the survey invitation, also were provided in online newsletters. The 2012 IT Salary and Skills Survey yielded more than 9,540 completes from around the globe with 76% coming from the United States and Canada. This online survey was powered by Qualtrics and tabulated using SPSS.

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