

# The Whirling World of IT Pay

By David Foote, Foote Partners LLC

Companies are finding market data useful in determining appropriate pay ranges for IT employees, and also for valuing workers' knowledge and skills acquisition.

## QUICK LOOK

- ➔ Though fragmented, IT pay overall is still growing much faster than the general market.
- ➔ Nearly half of surveyed IT positions earn in excess of \$100,000 in annual base salary, with total bonus pay in the first quarter averaging 17.7 percent of base salary for all IT positions.
- ➔ Employers are factoring technical certifications into compensation, selection and promotion decisions.

Given the dismal IT job climate – highly publicized layoffs, canceled projects and suddenly worthless stock options – one would think high wages would be another casualty of the slowing economy. However, it really depends on the type of IT job.

Growth in base pay for networking professionals over the past year is a whopping 50 percent to 80 percent greater than the average for IT professionals overall. This is due in part to the demand for specialists to build and manage key pieces of the e-business technical infrastructure continuing to outrun supply. Increases for security pros and business technologists are beating the average by about 30 percent. While certain IT professional jobs are growing at a rapid rate, it's also important to note that, overall, IT is growing much faster than the general market (nearly three times greater by some estimates).

The deflated dot-com balloon reversed the fortunes of workers in many Web-related jobs, putting the brakes on annual salary growth and having pronounced economic effects on West Coast and Northeast regional job markets where these jobs were heavily concentrated. Also losing some ground in the past year has been bonus pay for hot skills. These are premiums specifically linked to technical skills experience, popular in recent years for attracting and retaining talent. Ironically, bonus pay for formal skill certifications is up substantially in the period.

It's clearly a mixed bag for IT compensation in this transition period, according to two compensation surveys by Foote Partners – *Quarterly IT Professional Salary Survey* and *Hot Technical Skills and Certifications Pay Index (HTSCPI)* – involving continuous tracking of 1,560 IT organizations.





Compiled from questionnaires and direct interviews with 24,616 workers in 55 U.S. and Canadian cities from Jan. 1 to March 31, 2001, the surveys show that base salaries for 80 key IT positions grew by a robust average of 9.8 percent over first quarter 2000.

Broken down, the survey results paint a rosier picture for only some IT professionals and indicate important new employment trends for information technology workers.

### Salaries and Bonuses

The surveys reveal that nearly half of the surveyed positions earn in excess of \$100,000 in annual base salary, and 70 percent exceed that in total cash compensation. Among job families in the survey, all but one is averaging triple figures. (See Figure 1 on page 32.)

Comparing base salaries from first quarter 2000 to first quarter 2001, network operations and network engineering jobs grew the most, up 16.8 percent and 14.1 percent, respectively. Pay for business technology, security and business applications development jobs increased between 12 percent and 12.5 percent, with systems operations and messaging/groupware also beating the overall IT average, up 11.4 percent and 10.5 percent, respectively. Many factors are driving growth in these jobs, including:

- Continued expansion of e-business application development
- An upsurge in outsourcing contracts and enterprise-level IT projects, requiring expert management
- Increased demand for both wireless services and mobile computing capabilities
- Greater security risks associated with the above.

In stark contrast, Web jobs in the quarterly survey show a substantially flatter 3.8 percent annual base salary growth, well below the 9.8 percent overall average. Were dot-com failures in the second half of 2000 the culprit? Yes, but an even greater contributing factor has been corporate skittishness about launching or continuing to fund expensive Web-intensive enterprise systems development initiatives, such as customer relationship management (CRM) projects, following numerous widely publicized project failures at prominent companies. Pay growth for jobs figuring prominently in these initiatives also show flat growth: data warehousing (up 4.3 percent), systems engineering (7.6 percent), and database (9.1 percent). However, ongoing research indicates a strong resurgence in Web/e-commerce job pay since this survey, possibly a trend for the next several months. (See Figure 2 on page 32.)

Total bonus pay received in the first quarter averaged a healthy 17.7 percent of base salary for all IT positions surveyed – an average \$18,471 payout – representing a dramatic increase over the 14.6 percent average just three months earlier. These findings compare bonuses that were actually paid in these quarters, assumingly for performance over the prior year.

Business technology jobs, which require strong collaboration abilities, communication skills, and well-developed hybrid competencies in business and technical areas, earned the highest bonuses, averaging 23.6 percent of base pay (\$32,503) across all surveyed positions in the category. E-commerce jobs are next at 22.9 percent (\$27,307), followed by corporate/ business unit applications developers' 21.7 percent bonus pay (\$27,053). At 10.8 percent of base, help desk jobs averaged the lowest bonuses (\$5,688), well below the 13 percent (\$12,860) mark for the next lowest job family, messaging. Clearly, "strategic" job responsibilities still earn workers the higher bonuses. (See Figure 3 on page 33.)

## Skills Premiums

For the past four years, the quarterly surveys have tracked the increasing popularity of bonus premiums paid to IT workers with high-value skills and certifications. Isolating and rewarding skills with cash payouts (most commonly calculated as a percent of base salary) make it easier for employers stuck with inflexible, outdated compensation systems to stay competitive in fast-moving technical labor markets. For many employers, fine tuning individual worker compensation in between annual base salary adjustments has somewhat obviated the need to hand out artificial promotions and manipulate performance evaluation systems solely to “prop up” compensation for job content that no longer matches job titles.

Like base pay, the market value for skills pay is driven by supply-and-demand economics. However, unlike salaries, skills pay tends to fluctuate much more dramatically from quarter to quarter.

For the 79 IT skills reported in this quarter’s HTSCPI, the average median premium paid was 9 percent of base pay, 0.3 percent of base pay less than fourth quarter 2000 and 1.1 percent less than third quarter 2000 survey results. Research further indicates that available funds for skills premiums are flowing more to upper echelon or “impact” IT workers in the form of larger and/or additional skills bonuses, and away from younger or less experienced employees who may have received them as sign-on or retention bonuses in the past. This is especially true for skills bonuses in the development tools/languages and database areas. (See Figure 4 on page 33.)

Security skills pay applied specifically to projects such as data warehousing, CRM, supply chain management and

e-commerce, generated the highest premiums for all skills in first quarter 2001 — 18 percent of base pay at the median — followed closely by skills in rapid application development (16 percent) and routing (15 percent). Gigabit ethernet, Microsoft Exchange, and Extensible Markup Language (XML) all earned 13 percent of base median premiums, with XML displaying the steepest growth of all skills surveyed, up 2 percent of base salary from the prior quarter. (See Figure 5 on page 35.)

By category, pay for messaging and groupware-related skills — essential components of team-based project activities and more popular than ever as corporate intranets flourish — remain unchanged since mid-2000 (10.3 percent of base) and ranked second overall in the first quarter

FIGURE 1: AVERAGE BASE SALARY (NATIONAL) – SELECTED POSITIONS

First Quarter 2001	
<b>EXECUTIVES</b>	
VP/Director, Business Technology	\$159,367
VP/Director, Web Systems	\$130,770
Director, NT/Unix Computing	\$120,766
Director, Enterprise Infrastructure	\$119,390
Director, Information Security	\$116,388
Director, LAN/WAN Operations	\$101,167
<b>MANAGERS</b>	
Manager, Business Applications Development	\$119,073
Manager, NT/Unix System Engineering	\$116,219
e-Commerce Project Manager Coordinator	\$111,283
Manager, Application Systems Architecture	\$111,164
Data Warehouse Project Manager	\$110,350
Web Project Manager	\$109,278
Manager, NT/Unix Operations	\$108,600
Help Desk Manager	\$64,849
<b>SENIOR STAFF</b>	
Business Technologist	\$117,763
Senior Business Applications Development	\$91,477
Senior Enterprise Messaging Analyst	\$90,474
Senior Network Engineer	\$86,858
Senior Systems Programmer, NT/Unix	\$86,509
Web Engineer	\$86,640
Senior Notes Engineer	\$86,052
Senior Information Security Analyst	\$83,186
Senior DSS Analyst	\$83,138
<b>STAFF</b>	
Application Systems Architect	\$96,827
Database Administrator	\$88,028
Senior Infrastructure Engineer	\$88,018
Business Applications Developer	\$83,409
Web Programmer	\$80,382
Data Warehouse Administrator	\$79,351
e-Commerce Programmer Analyst	\$78,405
Help Desk Specialist	\$42,993

Survey Base: 24,616 IT professionals

FIGURE 2: AVERAGE ANNUAL BASE SALARY GROWTH – BY JOB FAMILY

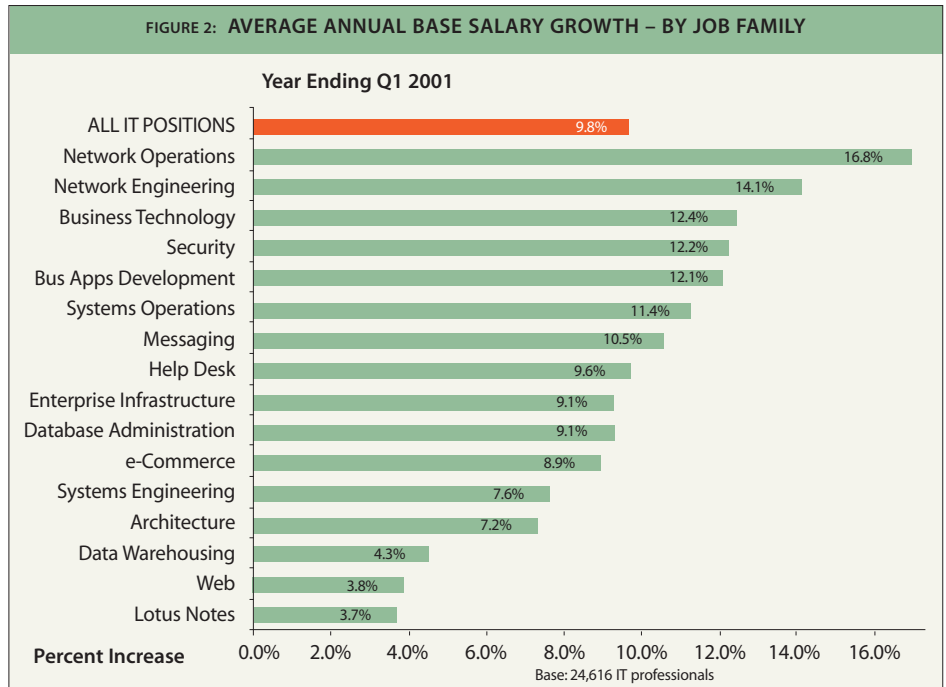


FIGURE 3: ANNUAL AVERAGE BASE SALARY AND BONUS – BY POSITION

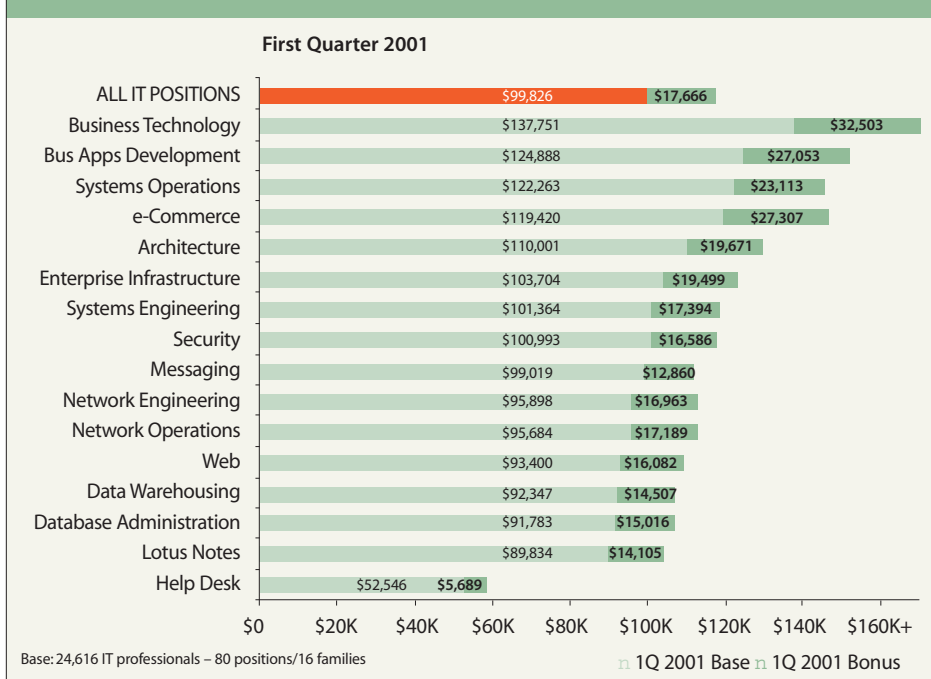
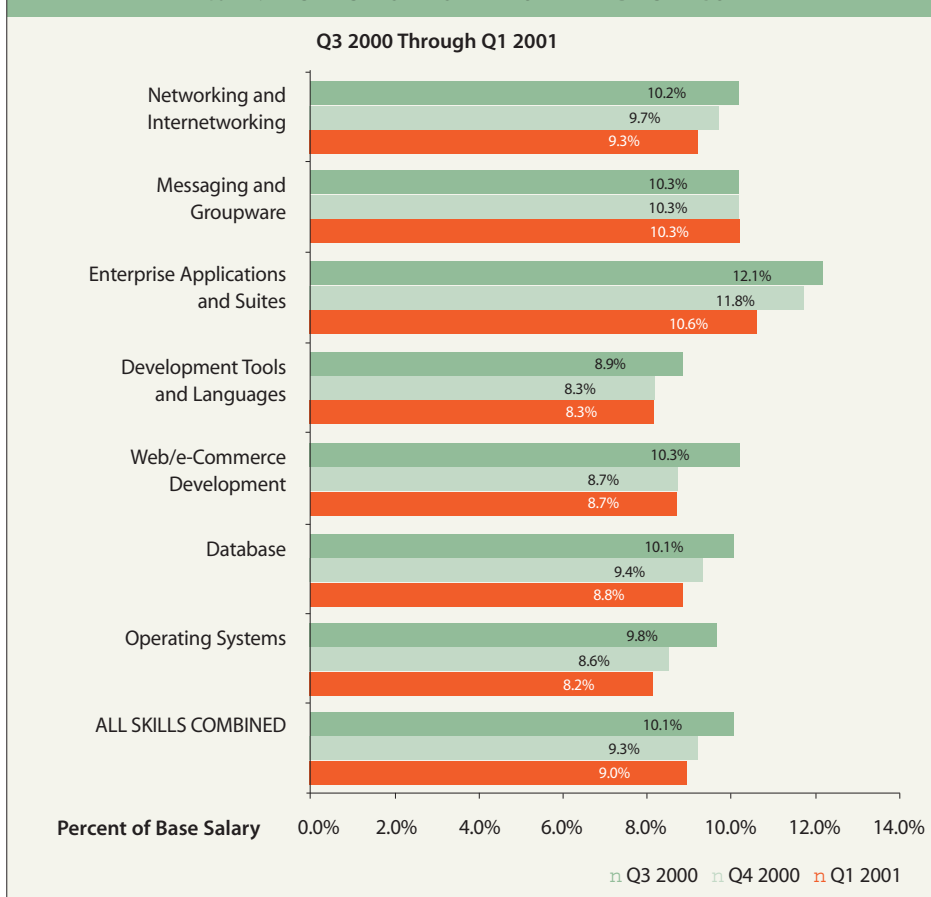


FIGURE 4: TECHNICAL SKILLS PREMIUM PAY – BY CATEGORY



survey. Premium pay in networking/internetworking and applications development skills categories is only

slightly lower than the prior period.

The biggest categorical drop from fourth quarter 2000 occurred in the

Web/e-commerce, operating systems, database and enterprise applications skill categories, each losing about 1.5 percent of base pay at the median. Specific skills showing the most erosion: Novell Netware (down 3 percent of base, or 38 percent in total value) and Cobol (down 2 percent, or 29 percent), followed by ATM, Sybase Adaptive Server, Siebel, Linux, and SAP skills, which each lost 1 to 2 percent of base pay, or about 20 percent of their value. Why the decline?

Contributing factors include:

- Deaths of hundreds of well-staffed dot-coms
- Anticipation of Microsoft’s new server/desktop OS slowing demand for current standards
- Reduced demand for Linux and Solaris operating systems, and for SAP and other enterprise applications software suites.

One important survey finding: The value of enterprise applications skills is steadily declining, despite generating consistently higher-than-average 10 percent to 15 percent of base pay premiums in each of the last three quarters. In light of recent analyst estimates that between 50 percent and 70 percent of multimillion dollar strategic enterprise systems projects are producing “ineffective” results or outright failures, this category should continue trending downward for the next several quarters.

There also are many positive trends in this quarter’s HTSCPI. Encouraging for applications developers and Web/e-commerce systems workers (following their fourth quarter skills pay slump) is the leveling off in these categories in the first quarter, led by gains in XML, scripting languages, Oracle, C++, and rapid application development skills. Security, networking, and internet working skills pay are expected to trend sharply upward over the next several quarters as more business is launched online, stimulated by growing

extranet security concerns and hot emerging technology markets such as wireless. Overall, expect more team- and project-focused skills pay during the economic downturn, as budgets undergo case-by-case scrutiny to focus resources on projects bringing tangible, near-term benefits.

### Certification Bonuses

Technical certifications, though not absolute measures of technical prowess or guarantees of ROI in human capital, are viewed positively by employers and regularly factor into compensation, selection and promotion decisions.

Median bonuses for the 39 technical skill certifications tracked in this quarter's HTSCPI averaged 8.6 percent of base pay, up from 7.9 percent last quarter. Leading the expansion: networking certifications (up 2.2 percent of base, or 24.4 percent total value); network operating systems

certifications (up 1.1 percent of base, or 18.3 percent); general certifications, most popular with new IT workers (up 1.3 percent of base, or 18.7 percent); and Web certifications (up 0.6 percent of base, or 15 percent). (See Figure 6.)

Several network certifications made notable pay gains this quarter. These included Cisco Certified Network Associate (up 5 percent of base, or 63 percent in total value), Microsoft Certified Systems Engineer+Internet (up 5 percent of base, or 50 percent), Microsoft Certified Systems Engineer (up 2 percent of base, or 29 percent), and Cisco Certified Network Professional (up 2 percent of base, or 20 percent). Other strong gainers in the quarter were Oracle Certified Professional certification, which added 4 percent of base pay, and Microsoft Certified Trainer, up 3 percent of base.

On the down side, premium pay for enterprise application certifications (e.g., Siebel) declined not unlike salaries in the same category, helping to drive down overall pay in the applications development certifications category by 1.5 percent of base pay to a below-average 8.2 percent overall premium.

### More Trends To Watch

Analyses of these findings serves as a guide for near-term decisions on IT pay. The following trends also will shape the IT compensation marketplace:

**The chronic shortage of skilled IT professionals will worsen, keeping IT pay levels elevated.** The persistent shortfall of workers with technology and business strategy skills will continue despite the swelled ranks of unemployed techies, fed by more companies rewiring to the Internet.

## Survey Methodology

Data are collected by directly interviewing and surveying IT professionals who most closely match the target jobs, then continuously tracking their progress. Data are updated, analyzed and published every three months from the same sample, which is constantly expanding. More than 300 HR departments also contributed, screened and selected for their ability to report accurate data tied to both title and actual job content. Detailed job profiles are regularly updated for all positions, as are industry multipliers. Numerous validation methods are used: self-report/HR report, local/regional/national surveys, compensation analysts, consultants, and recruiters. A large representative sample of employers and key market-influencers is identified in each city and labor market reported; data sources within each are targeted and contacted. The sample, therefore, includes government, not-for-profit, and private sector companies of all industries and sizes.

FIGURE 5: HOTTEST SKILLS – 1Q 2001

Hottest Skills	1Q 2001 Bonus	% Change vs. 4Q 2000
Security Skills (Projects)	18%	0%
RAD Experience	16%	7%
Routing (e.g., OSPF)	15%	0%
Gigabit Ethernet	13%	0%
Microsoft Exchange	13%	0%
XML	13%	18%
Windows 2000/ME	13%	0%
Java Server Pages	12%	0%
Microsoft SQL Server	12%	0%
Oracle DB	12%	-8%
WAP	11%	0%
IXP	11%	0%
Lotus Notes/Domino	11%	0%
Oracle Developer	11%	10%
Visual C++	11%	10%
Scripting Languages (eg. Java, VB)	11%	0%

FIGURE 6: CERTIFICATION BONUSES BY CATEGORY

CERTIFICATIONS CATEGORY	% of Base		
	4Q2000	1Q2001	% Change
General	7.0%	8.3%	18.5%
AD/Programming Languages	9.7%	8.2%	-15.5
Databases	10.0%	10.3%	3.0
Internet/Web	9.3%	10.7%	15.1%
Networking	9.0%	11.2%	24.4%
System/Network Operations Systems	6.0%	7.1%	18.3%
Security	6.8%	6.8%	0.0%
Project Management	12.0%	13.0%	8.3%
ALL CERTIFICATIONS COMBINED	7.9%	8.6%	8.9%

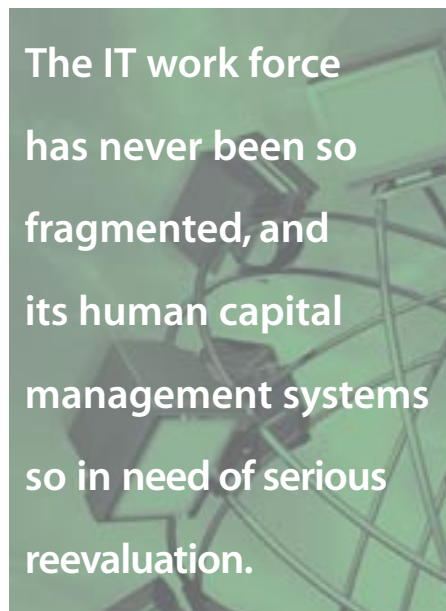
A recent survey by an IT industry publication found that 43 percent of large companies (1,000 or more employees) also believe that finding qualified staff today is equally/more difficult as it was a year ago.

**Security professionals will diversify skill sets and substantially increase their pay.** While continuing to master new technologies for protecting IT systems, security professionals are under increasing pressure to also understand their company's entire business and pinpoint security risks most threatening to the company's bottom line. Factor in the inclusion of basic network engineering and operations skills into most security jobs regardless of the specialization; rapid growth in new security niches (e.g., forensics and intrusion detection); a continued supply-and-demand gap, with current vacancy rates as high as 90 percent. It's apparent that security-related salaries should skyrocket. Moreover, in the next 12 to 24 months, multi-talented security pros will be tasked to:

- Comply with new security and privacy regulations in health care and finance
- Address security issues pertaining to wireless access, business-to-business exchanges and application service providers (ASPs)
- Develop stronger user-awareness policies.

**New opportunities in the health care and biotechnology industries.** Spurred by the Health Insurance Portability and Accountability Act of 1996 (HIPAA), many health care organizations are implementing or reconfiguring legacy systems to protect patient privacy. Opportunities for IT workers will vaguely resemble the "Y2K problem" of a few years ago. IT also will become a bigger piece of the biotech and bioinformatics industries, where startups need programmers,


network engineers and Web developers to link products and do testing.



**Rise of enterprise project management (EPM).** If it seems like nothing on the job gets done on time, within budget or without major resource problems, a good question might be: Whatever happened to that vaunted discipline of project management? Ironically, the answer is it's alive and experiencing a renaissance amid the pressures of accelerating paces of change, greater complexities and business globalization. EPM adopts an enterprise mind-set and managerial philosophy that goals are achieved through a web of simultaneous, often interconnected, projects being managed to completion in the manner of a portfolio of investments. Companies implementing EPM regard project management skills as corporate core competencies and are developing career paths with aggressive performance management, incentives and reward systems for support.

**Determining Pay**  
The IT work force has never been so fragmented, and its human capital management systems so in need of

serious reevaluation. In conceiving more forward-thinking compensation schemes, employers shouldn't feel constricted by having to choose between person-based vs. job-based approaches: They should be using both. That way, pay determination is based on the acquisition of knowledge or skills, allowing more flexibility and individualization, but also uses market data to determine the appropriate range of pay for the "job."

The trick is to map base pay to a clearly articulated market strategy and have a well-defined set of rules for moving base pay as skills are developed, or for providing skills and certification bonuses. That rule set should identify key skills (based on corporate priorities, hot projects, etc.), provide learning strategies and programs (or recruiting and selection programs, if the skills are to be "bought" on the market), and have a valid method of measurement to determine the skills level attained. Employers that haven't yet innovated their pay strategies and systems may be at a costly disadvantage to those who are able to anticipate and plan for likely market scenarios. 

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