

2019 IT Skills and Salary Report Salary and Certifications

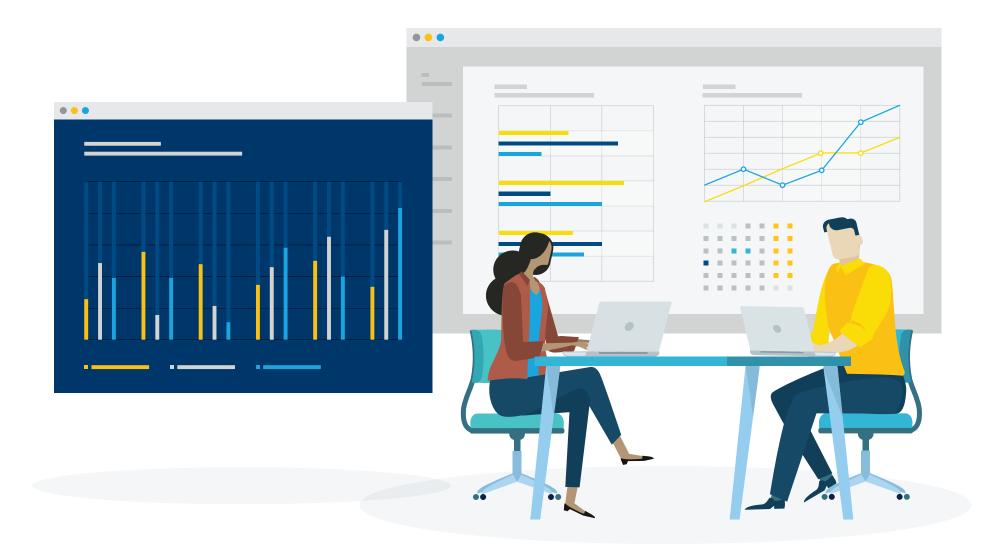


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Introduction

Welcome to the Global Knowledge 2019 IT Skills and Salary Report. It is the largest worldwide study of professionals in the technology community and has been conducted annually for over a decade. Throughout the report, you'll find the data broken up by region: North America; Latin America; Europe, the Middle East and Africa (EMEA); and the Asia-Pacific region.

IT professionals, human resources and industry leaders use this report as a guide for salaries, in-demand certifications, tech priority areas, skills gaps, professional development, job satisfaction, and future outlooks in IT.

Traditionally, we have combined all areas of study into one report, but this year we're breaking it up into smaller reports so we can dig deeper into each topic.

The reports will be:

- Salary and certifications
- IT decision-maker insights
- Professional development and job satisfaction
- Looking forward

HOW TO USE THE SALARY AND CERTIFICATIONS REPORT

The salary-related data helps answer questions such as:

- What are IT professional salaries around the world?
- What industries pay the best?
- Which job function to pursue if you're looking for a career change
- What's driving raises and bonuses?

The certification section of the report highlights:

- Which certifications are most popular
- The individual and organizational benefits of certification
- The top-paying certifications
- The value of pursuing certifications from multiple tech providers

PRIMARY FINDINGS

Salaries are going up

Global IT compensation is the highest it's ever been. There are a number of factors at play, including responsibility level, job function, tenure, company size, industry and where you live. This report examines how the top-paying IT professionals fit into all of these categories.

Want a raise? Be better at your job.

IT professionals on average earned \$5,000 more this year compared to 2018. The main reason? Job performance. Training to add skills that immediately translate to the workplace is leading to pay increases. Professional development makes a difference if you're looking to boost your earnings.

Certifications (still) matter

Eighty-five percent of global IT professionals hold at least one certification, of which over half were earned in the past 12 months. Another 66% plan to attain a new certification this year. Tech professionals still see the value in certifications and are pursuing them in various categories and technologies.

Top-paying certifications vary by region

Instead of just looking at the highest-paying certifications worldwide, this year we broke up our lists by region. That means the top-paying certification in North America may not match the top-paying credential in Latin America. (Spoiler alert: it doesn't!)

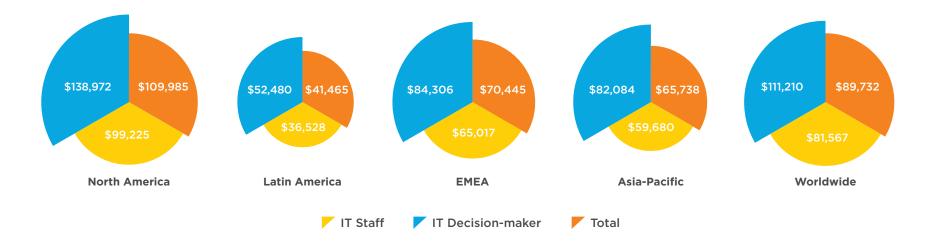
Compensation

An employee's compensation is determined by a combination of factors, including education, responsibility level, job role, certification, tenure, industry, company size and geography—even global and regional economies. In this year's IT Skills and Salary Survey, we asked respondents about these factors and discovered variations around the globe, starting with base salaries. We converted salaries into U.S. dollars to enable relevant comparisons.

BASE SALARY

The average annual salary for global IT professionals is \$89,732-the highest it's ever been in this report.

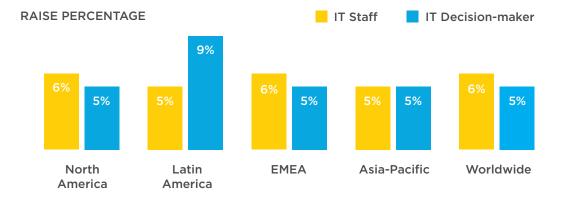
North American IT professionals earn \$109,985, which is 23% more than the worldwide average. In the U.S., that number increases to 27%. EMEA has the second highest average salary (\$70,445), followed by the Asia-Pacific region (\$65,738) and Latin America (\$41,465).



IT professionals in the U.S. earn higher salaries than their counterparts in any other region. A clear distinction across all geographies is the ratio of IT decision-makers' salaries compared to the salaries of the employees they manage. In North America, IT managers earn an average of 40% more than their staff. This ratio is comparable to Latin America (44%) and Asia-Pacific (38%). In the U.S., decision-makers make 37% more than the employees they manage.

RAISES AND BONUSES

Our respondents, on average, made nearly \$5,000 more this year than last. The highest salary increase was amongst Latin American IT professionals, who experienced an average raise of 6.5%. North America (5.8%), EMEA (5.6%) and Asia-Pacific (5.2%) saw slightly smaller increases.



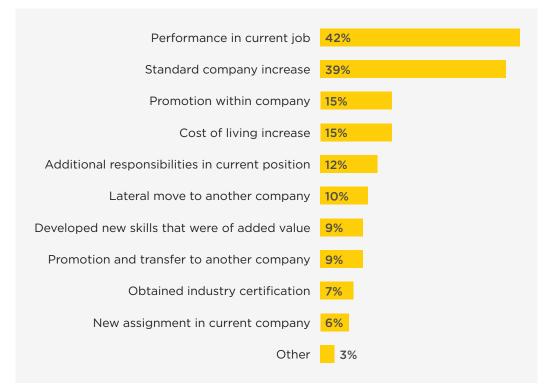
Reasons for a raise

Forty-two percent of the respondents who received a raise attribute it primarily to job performance. Standard company increase is the second most frequently mentioned reason. Fifteen percent were promoted within their company in the past year.

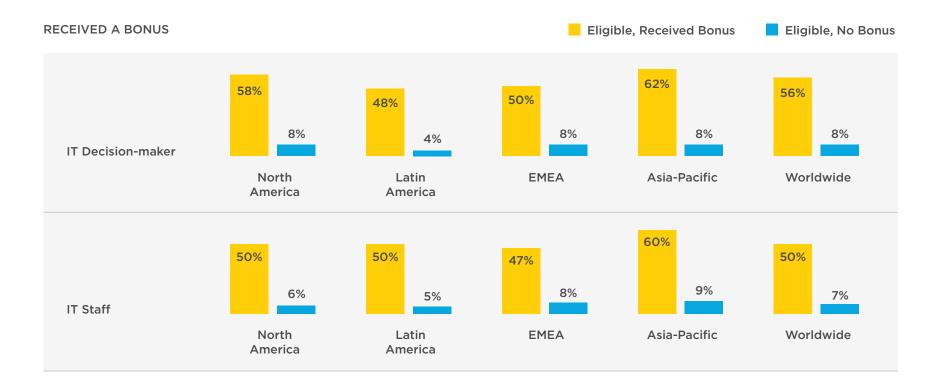
The reason for a raise impacts the amount of the raise. Nine percent of IT professionals attribute their raise to adding new skills—those same individuals earned nearly \$12,000 more than last year, a strong indication that training pays off.

Professionals who left their current company and sought a promotion elsewhere saw their salaries jump over 26%, while those who were promoted internally increased their salaries by 14%. A lateral move to another company resulted in a 20% salary increase.

FACTORS FOR INCREASED SALARY



Worldwide, half of IT staff and 56% of decision-makers earned a bonus. The most bonus-friendly region was Asia-Pacific, with over 60% of employees receiving one. Forty-one percent of global IT professionals were not bonus-eligible this year.



Nearly 250 IT professionals explained in the open-field section of our survey why they received a salary increase. Here are some of the write-in comments:

- "Was going to another company but got a counter offer"
- "New certification"
- "Salary adjustment to match competition"
- "Obtained Master's Degree"
- "Moved to Tokyo from India"

- "My company was acquired"
- "Moved from permanent position to consultant contract in another company"
- "I asked for it"

RESPONSIBILITY LEVEL

We compared respondents' compensation data to their levels of responsibility, ranging from non-management to executive.

Non-management IT staff (specialists, analysts, associates, level 1, etc.) account for 29% of this year's report. Average non-management salaries range from \$29,156 in Latin America to \$87,328 in North America, with a global average of \$75,345.

Most popular job roles include:

- Network engineer
- Security analyst
- Programmer / developer

Mid-level professionals (managers and team leads) form the core of this year's respondent base, accounting for 43%. The average salary for mid-level IT pros is \$85,761. Average salaries range from \$39,437 for Latin American respondents to \$108,798 for those in North America.

Most popular job roles include:

- IT audit manager
- Security officer
- Project manager

Respondents in **senior-level** roles account for 25% of this year's participants. The average salary at this level is \$109,689. Salaries for senior-level respondents are lowest in Latin America where the average is \$46,155. Their counterparts in North America earn an average of \$136,604.

Most popular job roles include:

- Director
- Chief Security Officer (CSO)
- Senior engineer

Executives account for three percent of IT respondents and report an average salary of \$123,508. North American executives make \$160,474 annually.

Most popular job roles include:

- Chief Technology Officer (CTO)
- Chief Information Officer (CIO)
- Chief Executive Officer (CEO)

SALARY BY RESPONSIBILITY LEVEL

| Level | Average | Count | Percent | | | | | | |
|----------------|-----------|--------|---------|--|--|--|--|--|--|
| | North A | nerica | | | | | | | |
| Non-management | \$87,328 | 2,131 | 33% | | | | | | |
| Mid | \$108,798 | 2,648 | 40% | | | | | | |
| Senior | \$136,604 | 1,598 | 24% | | | | | | |
| Executive | \$160,474 | 176 | 3% | | | | | | |
| Total | \$109,985 | 6,553 | 100% | | | | | | |
| Latin America | | | | | | | | | |
| Non-management | \$29,156 | 101 | 19% | | | | | | |
| Mid | \$39,437 | 256 | 50% | | | | | | |
| Senior | \$46,155 | 135 | 26% | | | | | | |
| Executive | \$86,634 | 25 | 5% | | | | | | |
| Total | \$41,465 | 517 | 100% | | | | | | |
| EMEA | | | | | | | | | |
| Non-management | \$60,197 | 1,045 | 29% | | | | | | |
| Mid | \$68,257 | 1,555 | 43% | | | | | | |
| Senior | \$83,162 | 897 | 25% | | | | | | |
| Executive | \$92,784 | 121 | 3% | | | | | | |
| Total | \$70,445 | 3,618 | 100% | | | | | | |
| | Asia-P | acific | | | | | | | |
| Non-management | \$58,707 | 303 | 19% | | | | | | |
| Mid | \$60,026 | 852 | 54% | | | | | | |
| Senior | \$81,544 | 378 | 24% | | | | | | |
| Executive | \$86,174 | 50 | 3% | | | | | | |
| Total | \$65,738 | 1,583 | 100% | | | | | | |
| | World | wide | | | | | | | |
| Non-management | \$75,345 | 3,580 | 29% | | | | | | |
| Mid | \$85,761 | 5,311 | 43% | | | | | | |
| Senior | \$109,689 | 3,008 | 25% | | | | | | |
| Executive | \$123,508 | 372 | 3% | | | | | | |
| Total | \$89,732 | 12,271 | 100% | | | | | | |

JOB FUNCTION

SALARY BY JOB FUNCTION

| FUNCTIONAL AREA | NORTH | NORTH AMERICA | | LATIN AMERICA | | EMEA | | ASIA-PACIFIC | | WORLDWIDE | | |
|---|-----------|---------------|----------|---------------|-----------|-------------|-----------|--------------|-----------|-------------|-------|--|
| | Average | Respondents | Average | Respondents | Average | Respondents | Average | Respondents | Average | Respondents | Total | |
| Application Development / Programming | \$104,098 | 638 | \$32,691 | 29 | \$60,669 | 386 | \$55,441 | 52 | \$84,763 | 1,105 | 9% | |
| Cloud Computing | \$138,320 | 308 | \$50,480 | 17 | \$99,290 | 211 | \$89,209 | 86 | \$115,889 | 622 | 5% | |
| Cybersecurity / IT Security | \$117,932 | 1,221 | \$42,725 | 74 | \$75,828 | 528 | \$73,066 | 403 | \$97,322 | 2,226 | 18% | |
| Data, Analytics and Business Intelligence | \$110,360 | 227 | \$35,217 | 11 | \$69,595 | 98 | \$67,436 | 27 | \$93,884 | 363 | 3% | |
| DevOps | \$114,332 | 233 | \$35,917 | 13 | \$64,404 | 165 | \$42,263 | 19 | \$89,618 | 430 | 4% | |
| Executive (C-level, Director, VP) | \$149,034 | 455 | \$68,253 | 30 | \$101,523 | 164 | \$108,794 | 57 | \$131,316 | 706 | 6% | |
| Infrastructure, Networking and Telecom | \$91,359 | 880 | \$32,016 | 112 | \$52,517 | 554 | \$50,344 | 224 | \$70,256 | 1,770 | 14% | |
| IT Architecture and Design | \$126,095 | 563 | \$39,183 | 69 | \$83,606 | 459 | \$65,589 | 137 | \$98,580 | 1,228 | 10% | |
| IT Compliance / Audit | \$108,214 | 493 | \$46,923 | 77 | \$65,657 | 409 | \$57,915 | 286 | \$79,352 | 1,265 | 10% | |
| Other | \$104,254 | 696 | \$49,251 | 49 | \$74,265 | 342 | \$66,629 | 140 | \$89,406 | 1,227 | 10% | |
| Project and Program Management | \$118,528 | 323 | \$48,478 | 14 | \$70,754 | 137 | \$74,608 | 86 | \$98,344 | 560 | 5% | |
| Service Desk and IT Support | \$63,245 | 516 | \$26,049 | 22 | \$42,126 | 165 | \$40,402 | 66 | \$55,689 | 769 | 5% | |
| Total (includes "Other" Job Functions) | \$109,985 | 6,553 | \$41,465 | 517 | \$70,445 | 3,618 | \$65,738 | 1,583 | \$89,732 | 12,271 | 100% | |

Salaries vary considerably by respondents' job functions. The following functional areas make up over half of our respondent base this year:

- Cybersecurity / IT security (18%)
- Infrastructure, networking and telecommunications (14%)
- IT compliance / audit (10%)
- IT architecture and design (10%)
- Application development / programming (9%)

Aside from executives, the highest global salaries are in cloud computing (\$115,889), IT architecture and design

(\$98,580), project and program management (\$98,344), and cybersecurity (\$97,322).

Cloud salaries are 29% more than the global average. The most popular cloud job roles include cloud architect and cloud engineer.

The most popular job role amongst all survey respondents is network engineer/analyst/technician, making up four percent of the total base.

COMPANY SIZE

IT professionals at the largest companies earn the highest salaries; this remains consistent across all regions. Global salaries exceed \$100,000 for those working at companies of more than 5,000 employees. In North America, professionals who work for companies of 5,000-plus earn 16% more than those who work for companies of fewer than 1,000 employees.

EMEA has the largest jump from mid-size to large companies—the salary bump is 23% when you exceed the 5,000-employee threshold. So if you're looking for a salary bump, look for a larger company.

This year, companies with fewer than 10 employees typically pay better than those with 10-49 employees. Worldwide, the salaries in the smallest companies are three percent higher than the next level up.

| NUMBER OF EMPLOYEES | NORTH AMERICA | | LATIN AMERICA | | EMEA | | ASIA-PACIFIC | | WORLDWIDE | |
|---------------------|---------------|------------|---------------|------------|----------|------------|--------------|------------|-----------|------------|
| NUMBER OF EMPLOTEES | Average | Percentage | Average | Percentage | Average | Percentage | Average | Percentage | Average | Percentage |
| 1-9 | \$104,661 | 3% | \$30,708 | 5% | \$65,735 | 5% | \$65,241 | 2% | \$80,570 | 3% |
| 10 - 49 | \$101,476 | 7% | \$35,453 | 11% | \$59,244 | 10% | \$60,235 | 6% | \$77,972 | 8% |
| 50 - 99 | \$104,969 | 6% | \$29,917 | 7% | \$61,959 | 7% | \$54,245 | 4% | \$82,155 | 6% |
| 100 - 249 | \$102,479 | 8% | \$42,067 | 12% | \$62,091 | 10% | \$61,415 | 6% | \$81,207 | 9% |
| 250 - 499 | \$101,188 | 7% | \$42,078 | 7% | \$63,900 | 7% | \$67,810 | 7% | \$83,237 | 7% |
| 500 - 999 | \$103,181 | 8% | \$37,450 | 8% | \$63,866 | 8% | \$53,423 | 7% | \$82,662 | 8% |
| 1,000 - 4,999 | \$106,005 | 17% | \$38,931 | 17% | \$67,990 | 16% | \$63,964 | 20% | \$86,060 | 17% |
| 5,000 + | \$119,859 | 41% | \$49,795 | 30% | \$83,520 | 34% | \$70,948 | 45% | \$100,890 | 39% |
| Do not know | \$94,208 | 3% | \$48,146 | 3% | \$56,605 | 2% | \$54,593 | 2% | \$81,466 | 3% |

COMPANY SIZE

CAREER EXPERIENCE

Naturally, IT professionals with longer careers have larger salaries. Global professionals with 26 or more years of experience have average annual salaries of \$117,030—that's a 135% increase from first-year IT professionals.

In North America, the biggest salary jump exists between years one and five, with professionals seeing their average salary increase by over 33%. While their salary will continue to rise throughout their career, the percentage increase will gradually diminish over time.

Fifty-eight percent of IT professionals have between six and 20 years of career experience. Only two percent are less than one year into the job, while 17% have five years of experience or fewer. At the other end of the spectrum, 25% of respondents have 20 years or more in IT.

| YEARS | NORTH / | AMERICA | LATIN A | MERICA | EMEA | | ASIA-PACIFIC | | WORLDWIDE | |
|---------|-----------|------------|----------|------------|----------|------------|--------------|------------|-----------|------------|
| TEARS | Average | Percentage | Average | Percentage | Average | Percentage | Average | Percentage | Average | Percentage |
| <1 | \$59,204 | 2% | \$11,870 | 1% | \$35,302 | 2% | \$49,504 | 2% | \$49,732 | 2% |
| 1 - 5 | \$79,207 | 15% | \$23,074 | 15% | \$45,333 | 17% | \$40,859 | 12% | \$61,770 | 15% |
| 6 - 10 | \$97,834 | 17% | \$31,567 | 23% | \$57,516 | 21% | \$49,515 | 24% | \$73,716 | 19% |
| 11 - 15 | \$111,159 | 17% | \$42,098 | 23% | \$70,555 | 22% | \$62,234 | 26% | \$86,398 | 20% |
| 16 - 20 | \$119,229 | 20% | \$48,037 | 20% | \$85,949 | 19% | \$83,965 | 18% | \$102,219 | 19% |
| 21 - 25 | \$128,835 | 14% | \$66,294 | 10% | \$89,382 | 11% | \$91,024 | 10% | \$112,505 | 12% |
| 26+ | \$128,217 | 16% | \$61,378 | 8% | \$97,139 | 9% | \$94,330 | 8% | \$117,030 | 13% |

CAREER EXPERIENCE

INDUSTRY

IT professionals in the aerospace/defense industry earn the highest global salaries at \$111,456 annually, while system integrators and value-added resellers (VAR) earn the most in North America (\$135,204). This makes sense since system and VAR integrators charge clients for their time and are generally paid well for the expertise they bring to their clients.

The top industry in Latin America (with a minimum of 10 respondents) is government: non-defense, state, local (\$54,902), the top industry in EMEA is communications, public relations, advertising (\$90,781), and the top industry in Asia-Pacific (with a minimum of 10 respondents) is government: military and homeland security (\$97,547).

The most popular industry is banking and finance, which makes up 13% of our respondent base. IT consulting, IT-related services, IT software, and government: non-defense, state, local round out the top five.

SALARY BY INDUSTRY

| INDUSTRYNergeRespondentsNergeRespondentsNergeRespondentsNergeRespondentsAerospace/ Defense\$118,231208\$30,6553\$69,83027\$106,6559\$111,456247Banking and Finance\$113,960668\$11,64371\$71,655404\$57,652304\$87,866\$15,57Communications, Public Relations, Advertsing\$155,90075\$27,0002\$90,781\$64,027\$64,027\$8\$99,9404\$109Construction, Architecture, Engineering\$98,740600\$29,867\$50,778\$61,747101\$64,6572.48\$90,9404\$109Government: Military and Homeland Security\$108,224560,0001\$85,321\$4.4\$97,457\$2.5\$94,868703Government: Military and Homeland Security\$108,244\$64,000\$11\$86,221\$4.6\$14.8\$90,671\$2.8\$90,671\$2.8Healthcare\$103,701\$52\$54,928\$61.9\$77,925\$105\$74,237\$95,158\$44,868Instructure, Relatile, Legal\$109,674\$13\$39,99\$15\$57,559\$16\$74,237\$43\$90,671\$125Instructure, Relatile, Legal\$100,679\$129\$33,79\$109\$57,559\$16\$59,226\$44\$83,000\$125Instructure, State, Local\$100,679\$139\$39,79\$14\$43,92\$149\$57,559\$16\$52,52\$44 | INDUCTOV | NORTH | AMERICA | LATIN AMERICA | | E | 1EA | ASIA-I | PACIFIC | WORLDWIDE | |
|---|---|-----------|-------------|---------------|-------------|----------|-------------|-----------|-------------|-----------|-------------|
| Banking and Finance\$113,960668\$41,64371\$71,655494\$67,652304\$87,8661,537Communications, Arbeits Relations, Advertising\$12,533075\$27,5002\$90,78136\$70,7508\$109,863121Construction, Architecture, Engineering\$98,74060\$23,8673\$60,77847\$64,2819\$77,404199Education Services\$89,517416\$34,95419\$56,27747\$64,2819\$77,904190Government: Military and Homeland Security\$108,224364\$66,0001\$86,231344\$97,54523\$105,777422Government: Non-defense, State, Local\$103,701522\$51,9286\$78,81587\$70,66830\$98,408655Hoepitality, Travel, Recreation\$106,741\$76\$23\$51,9286\$78,81587\$70,66830\$98,408655Itsurance, Real Estate, Legal\$106,747\$35\$33,79916\$77,925106\$74,72345\$95,588482It Consulting\$117,998\$54,433\$39\$75,559\$16\$76,728\$64\$88\$60,074\$88,070123It Indervace\$106,279\$44\$43,91274\$76,624\$47\$64,624\$28\$84,048\$16,02It Indervaces\$106,279\$44\$43,91274\$76,625\$1\$56,535\$69\$87,041\$16 | ΙΝΟΟΣΙΚΥ | Average | Respondents | Average | Respondents | Average | Respondents | Average | Respondents | Average | Respondents |
| Communications, Public Relations, Advertising \$125,390 75 \$27,500 2 \$90,781 36 \$70,750 8 \$109,863 121 Construction, Architecture, Engineering \$98,740 60 \$29,867 3 \$60,778 47 \$64,281 9 \$79,404 119 Education Services \$89,517 416 \$34,954 19 \$57,437 101 \$64,627 24 \$80,814 560 Government: Mindrapand Security \$108,224 564 \$66,000 1 \$56,521 34 \$97,547 23 \$109,777 422 Government: Mon-defense, State, Local \$93,483 442 \$54,920 18 \$66,428 148 \$74,058 38 \$80,697 422 Insurance, Real Estate, Legal \$106,747 515 \$39,799 16 \$77,925 106 \$74,235 444 \$80,067 \$43,333 IT Aedware \$132,433 70 \$43,333 8 \$66,532 444 \$80,057 \$24,542 \$44,543 | Aerospace / Defense | \$118,231 | 208 | \$30,695 | 3 | \$69,830 | 27 | \$106,659 | 9 | \$111,456 | 247 |
| Construction, Architecture, Engineering \$98,740 60 \$29,867 3 \$60,778 47 \$64,281 9 \$79,404 119 Education Services \$89,517 416 \$34,954 19 \$57,437 101 \$66,577 24 \$80,814 \$560 Government: Military and Homeland Security \$108,224 \$64 \$66,000 1 \$86,321 34 \$97,547 23 \$105,777 422 Government: Military and Homeland Security \$108,428 \$51,928 6 \$78,815 87 \$70,668 30 \$98,408 655 Healthcare \$103,701 532 \$51,928 6 \$78,815 87 \$76,678 8 \$90,697 125 Insurance, Real Estate, Legal \$106,749 \$108,431 \$70 \$42,333 8 \$66,693 46 \$59,226 44 \$88,300 168 IT Sortware \$102,390 \$59 \$44,498 390 \$77,593 404 \$61,244 168 \$10,0637 1,210 | Banking and Finance | \$113,960 | 668 | \$41,643 | 71 | \$71,665 | 494 | \$67,652 | 304 | \$87,866 | 1,537 |
| Education Services \$89,517 416 \$34,954 19 \$57,437 101 \$64,657 24 \$80,814 560 Government: Millary and Homeland Security \$108,224 364 \$66,000 1 \$86,321 34 \$97,547 23 \$105,777 422 Government: Mon-defense, State, Local \$93,485 442 \$54,902 18 \$64,428 148 \$74,156 55 \$84,868 703 Healthcare \$103,701 532 \$51,928 6 \$78,815 87 \$70,668 30 \$98,408 655 Insurance, Real Estate, Legal \$106,749 315 \$39,799 16 \$77,925 106 \$74,937 458 \$95,158 462 IT consulting \$117,998 546 \$35,678 91 \$66,366 560,374 244 \$88,300 1433 IT advare \$132,483 70 \$43,353 8 \$56,633 460 \$51,226 \$44,488 \$109 \$75,539 404 \$61,244 | Communications, Public Relations, Advertising | \$125,390 | 75 | \$27,500 | 2 | \$90,781 | 36 | \$70,750 | 8 | \$109,863 | 121 |
| Government: Milltary and Homeland Security \$108,224 \$66,000 1 \$86,321 34 \$97,547 23 \$105,777 422 Government: Non-defense, State, Local \$93,485 482 \$54,902 18 \$64,428 148 \$74,156 55 \$84,868 703 Healthcare \$103,701 532 \$51,928 6 \$78,815 87 \$70,668 30 \$98,408 655 Hospitality, Travel, Recreation \$106,749 315 \$33,799 16 \$77,925 106 \$74,233 45 \$95,158 462 Insurance, Real Estate, Legal \$107,978 545 \$8 \$56,633 46 \$58,226 44 \$83,007 1,433 IT Aerdware \$132,433 70 \$43,353 8 \$56,633 46 \$59,226 44 \$83,007 1,433 IT Aerdware \$132,433 70 \$43,353 8 \$56,633 46 \$58,926 44 \$66,324 108 \$100,637 1,210 | Construction, Architecture, Engineering | \$98,740 | 60 | \$29,867 | 3 | \$60,778 | 47 | \$64,281 | 9 | \$79,404 | 119 |
| Government: Non-defense, State, Local \$93,485 442 \$54,902 18 \$64,428 148 \$74,156 55 \$84,868 703 Healthcare \$103,701 532 \$51,928 6 \$78,815 87 \$70,668 30 \$98,408 655 Hospitality, Travel, Recreation \$108,461 76 \$28,311 5 \$65,021 36 \$76,478 8 \$90,697 125 Insurance, Real Estate, Legal \$106,479 315 \$39,799 16 \$77,925 106 \$74,293 45 \$95,158 482 IT Consulting \$117,998 546 \$36,978 91 \$66,346 \$64,074 248 \$83,076 1433 IT Ardware \$132,483 70 \$43,353 8 \$56,633 46 \$59,266 444 \$88,300 168 IT Software \$122,433 70 \$43,353 8 \$56,633 464 \$59,266 44 \$88,000 125 Mauratening: Consumer and Industrial | Education Services | \$89,517 | 416 | \$34,954 | 19 | \$57,437 | 101 | \$64,657 | 24 | \$80,814 | 560 |
| Healthcare\$103,701\$52\$51,92866\$78,81587\$70,66830\$98,408655Hospitality, Travel, Recreation\$106,6749315\$28,3115\$65,021366\$76,4788\$90,697125Insurance, Real Estate, Legal\$106,749315\$39,79916\$77,925106\$74,293455\$95,158482IT Consulting\$117,998546\$36,97891\$66,366548\$60,074248\$83,0761,433IT Hardware\$115,243370\$43,3538\$56,693461\$59,22644\$88,300168IT Software\$110,629484\$43,91274\$74,624472\$64,624229\$84,8411,259Manufacturing: Consumer and Industrial\$100,077289\$47,547199\$77,509146\$59,53369\$87,041\$233Media, Film, Music\$125,82994\$32,1644\$76,02551\$62,51212\$103,006161Natural Resources: Mining, Oil, Gas\$107,71760\$45,32711\$85,54346\$289,55616\$90,044313Nonprofit\$89,033105\$32,5002\$66,055266\$83,2305\$83,850318Professional Business Services\$112,335159\$48,69220\$66,666104\$70,27157\$90,156544Professional Business Services\$112,335159 | Government: Military and Homeland Security | \$108,224 | 364 | \$66,000 | 1 | \$86,321 | 34 | \$97,547 | 23 | \$105,777 | 422 |
| Hospitality, Travel, Recreation\$108,46176\$28,3115\$65,02136\$76,4788\$90,697125Insurance, Real Estate, Legal\$106,749315\$39,79916\$77,925106\$74,29345\$95,158442IT Consulting\$117,998546\$36,97891\$66,346548\$60,074248\$83,0761,433IT Hardware\$132,48370\$43,3538\$56,693464\$59,226444\$88,300168IT Software\$102,290\$599\$44,49839\$75,359404\$61,244168\$100,6371,210IT-Related Services\$110,629484\$43,91274\$74,624472\$64,624229\$84,8411,259Maufacturing: Consumer and Industrial\$101,007289\$47,54719\$77,509146\$59,59369\$87,041\$253Media, Film, Music\$125,82994\$32,1644\$76,02551\$62,51212\$103,006161Natural Resources: Mining, Oil, Gas\$107,31760\$45,32711\$85,54346\$68,95616\$90,044133Other\$109,099308\$37,82520\$65,924159\$73,75557\$90,156544Pharmaceutical, Medical, Biotech\$128,69270\$25,4483\$74,03929\$70,79111\$106,289113Professional Business Services\$112,355159 </td <td>Government: Non-defense, State, Local</td> <td>\$93,485</td> <td>482</td> <td>\$54,902</td> <td>18</td> <td>\$64,428</td> <td>148</td> <td>\$74,156</td> <td>55</td> <td>\$84,868</td> <td>703</td> | Government: Non-defense, State, Local | \$93,485 | 482 | \$54,902 | 18 | \$64,428 | 148 | \$74,156 | 55 | \$84,868 | 703 |
| Insurance, Real Estate, Legal\$106,749315\$39,79916\$77,925106\$74,29345\$95,158482IT Consulting\$117,998546\$36,97891\$66,366548\$60,074248\$83,0761,433IT Hardware\$132,48370\$43,3538\$56,69346\$59,22644\$88,300168IT Software\$132,390599\$44,49839\$75,359404\$61,244168\$100,6371,210IT-Related Services\$110,629484\$43,91274\$74,624472\$64,624229\$84,8411,259Manufacturing: Consumer and Industrial\$100,007289\$47,54719\$77,509146\$59,59369\$87,041523Media, Flim, Music\$125,82994\$32,1644\$76,02551\$62,51212\$103,006161Natural Resources: Agriculture, Forestry, Fishing\$95,45214\$49,5002\$82,0386\$20,6222\$82,03324Natural Resources: Mining, Oil, Gas\$107,31760\$45,23711\$85,54346\$68,95616\$90,044133Nonprofit\$199,099308\$37,82520\$66,75326\$83,2305\$83,850138Other\$109,099308\$37,82520\$66,865104\$70,71757\$90,156544Professional Business Services\$112,335159\$48, | Healthcare | \$103,701 | 532 | \$51,928 | 6 | \$78,815 | 87 | \$70,668 | 30 | \$98,408 | 655 |
| IT Consulting \$117,998 \$546 \$36,978 91 \$66,346 548 \$60,074 248 \$83,076 1,433 IT Hardware \$132,483 70 \$43,353 8 \$56,693 46 \$59,226 44 \$88,300 168 IT Aardware \$132,390 \$599 \$44,498 39 \$75,559 404 \$61,244 168 \$100,637 1,210 IT-Related Services \$110,629 484 \$43,912 74 \$74,624 472 \$64,624 229 \$84,841 1,259 Manufacturing: Consumer and Industrial \$100,007 289 \$47,547 19 \$77,509 146 \$59,593 69 \$87,041 523 Media, Flim, Music \$125,829 94 \$32,164 4 \$76,025 51 \$62,512 12 \$103,006 161 Natural Resources: Agriculture, Forestry, Fishing \$95,452 14 \$49,500 2 \$82,038 6 \$20,622 2 \$82,033 24 Natural Resources: Mining, 0il, Gas \$107,317 60 \$45,327 11 \$85,543 | Hospitality, Travel, Recreation | \$108,461 | 76 | \$28,311 | 5 | \$65,021 | 36 | \$76,478 | 8 | \$90,697 | 125 |
| I Hardware\$132,48370\$43,3538\$56,69346\$59,22644\$88,300168IT Software\$132,390\$599\$44,49839\$75,359404\$61,244168\$100,6371,210IT-Related Services\$110,629484\$43,91274\$74,624472\$64,624229\$84,8411,259Manufacturing: Consumer and Industrial\$101,007289\$47,54719\$77,509146\$59,59369\$87,041523Media, Film, Music\$125,82994\$32,1644\$76,02551\$62,51212\$103,006161Natural Resources: Agriculture, Forestry, Fishing\$95,45214\$49,5002\$82,0386\$20,6222\$82,03324Nonprofit\$90,03760\$45,32711\$85,54346\$68,95616\$90,044133Other\$109,099308\$37,82520\$65,924159\$73,75557\$90,156544Pharmaceutical, Medical, Biotech\$128,69270\$25,4483\$74,03929\$70,71111\$106,289340Professional Business Services\$112,355159\$48,6476\$73,28822\$73,75757\$90,156540System and VAR Integration\$135,20441\$48,03213\$71,49584\$56,548213\$90,141\$103,21480System and VAR Integration\$108,759 | Insurance, Real Estate, Legal | \$106,749 | 315 | \$39,799 | 16 | \$77,925 | 106 | \$74,293 | 45 | \$95,158 | 482 |
| IT Software\$132,390\$599\$44,49839\$75,359404\$61,244168\$100,6371,210IT-Related Services\$110,629484\$43,91274\$74,624472\$64,624229\$84,8411,259Manufacturing: Consumer and Industrial\$101,007289\$47,54719\$77,509146\$59,593669\$87,041523Media, Film, Music\$125,82994\$32,1644\$76,02551\$62,51212\$103,006161Natural Resources: Agriculture, Forestry, Fishing\$95,45214\$49,5002\$82,0386\$20,6222\$82,03324Natural Resources: Mining, Oil, Gas\$107,31760\$45,32711\$85,54346\$68,95616\$90,044133Nonprofit\$89,103105\$32,5002\$66,70526\$83,2305\$83,850138Other\$109,099308\$37,82520\$66,956116\$90,044133Professional Business Services\$112,335159\$48,76920\$66,486104\$70,27157\$87,520340Retail\$10,567144\$48,03213\$71,49584\$54,53823\$90,174264System and VAR Integration\$135,20441\$48,2476\$73,29822\$73,79111\$103,21480System and VAR Integration\$108,759202\$36,73652\$59, | IT Consulting | \$117,998 | 546 | \$36,978 | 91 | \$66,346 | 548 | \$60,074 | 248 | \$83,076 | 1,433 |
| IT-Related Services\$110,629484\$43,91274\$74,624472\$64,624229\$84,8411,259Manufacturing: Consumer and Industrial\$101,007289\$47,54719\$77,509146\$59,59369\$87,041523Media, Film, Music\$125,82994\$32,1644\$76,02551\$62,51212\$103,006161Natural Resources: Agriculture, Forestry, Fishing\$95,45214\$49,5002\$82,03866\$20,6222\$82,03324Natural Resources: Mining, Oil, Gas\$107,31760\$45,32711\$85,54346\$68,95616\$90,044133Other\$109,099308\$37,82520\$66,70526\$83,2305\$83,850138Pharmaceutical, Medical, Biotech\$108,69270\$25,4483\$74,03929\$70,79111\$106,289113Professional Business Services\$112,335159\$48,76720\$66,486104\$70,27157\$87,520340System and VAR Integration\$105,677144\$48,2476\$73,29822\$73,79111\$103,21480Techer\$108,759202\$36,73652\$59,548272\$60,41184\$74,022610 | IT Hardware | \$132,483 | 70 | \$43,353 | 8 | \$56,693 | 46 | \$59,226 | 44 | \$88,300 | 168 |
| Manufacturing: Consumer and Industrial\$101,007289\$47,54719\$77,509146\$59,593669\$87,041523Media, Film, Music\$125,82994\$32,1644\$76,02551\$62,51212\$103,006161Natural Resources: Agriculture, Forestry, Fishing\$95,45214\$49,5002\$82,0386\$20,6222\$82,03324Natural Resources: Mining, Oil, Gas\$107,31760\$45,32711\$85,54346\$68,95616\$90,044133Nonprofit\$89,103105\$32,5002\$66,70526\$83,2305\$83,850138Other\$109,099308\$37,82520\$66,70526\$83,2305\$90,156544Pharmaceutical, Medical, Biotech\$128,69270\$25,4483\$74,03929\$70,79111\$106,289113Professional Business Services\$110,567144\$48,03213\$71,49584\$54,53823\$90,174264System and VAR Integration\$135,20441\$48,2476\$73,29822\$73,79111\$103,21480Telecommunications\$108,759202\$36,73652\$59,548272\$60,44184\$74,02260 | IT Software | \$132,390 | 599 | \$44,498 | 39 | \$75,359 | 404 | \$61,244 | 168 | \$100,637 | 1,210 |
| Media, Film, Music \$125,829 94 \$32,164 4 \$76,025 51 \$62,512 12 \$103,006 161 Natural Resources: Agriculture, Forestry, Fishing \$95,452 14 \$49,500 2 \$82,038 6 \$20,622 2 \$82,033 24 Natural Resources: Mining, Oil, Gas \$107,317 60 \$45,327 11 \$85,543 46 \$68,956 16 \$90,044 133 Nonprofit \$89,103 105 \$32,500 2 \$66,705 26 \$83,230 5 \$83,850 138 Other \$109,099 308 \$37,825 20 \$65,924 159 \$77,755 57 \$90,156 544 Pharmaceutical, Medical, Biotech \$128,692 70 \$25,448 3 \$74,039 29 \$70,791 11 \$106,289 113 Professional Business Services \$112,335 159 \$48,769 20 \$66,486 104 \$70,271 57 \$87,520 340 | IT-Related Services | \$110,629 | 484 | \$43,912 | 74 | \$74,624 | 472 | \$64,624 | 229 | \$84,841 | 1,259 |
| Natural Resources: Agriculture, Forestry, Fishing\$95,45214\$49,5002\$82,0386\$20,6222\$82,03324Natural Resources: Mining, Oil, Gas\$107,31760\$45,32711\$85,54346\$68,95616\$90,044133Nonprofit\$89,103105\$32,5002\$66,70526\$83,2305\$83,850138Other\$109,099308\$37,82520\$65,924159\$73,75557\$90,156544Pharmaceutical, Medical, Biotech\$128,69270\$25,4483\$74,03929\$70,79111\$106,289113Professional Business Services\$112,335159\$48,76920\$66,486104\$70,27157\$87,520340Retail\$110,567144\$48,03213\$71,49584\$54,53823\$90,174264System and VAR Integration\$135,20441\$48,2476\$73,29822\$73,79111\$103,21480Telecommunications\$108,759202\$36,73652\$59,548272\$60,44184\$74,022610 | Manufacturing: Consumer and Industrial | \$101,007 | 289 | \$47,547 | 19 | \$77,509 | 146 | \$59,593 | 69 | \$87,041 | 523 |
| Natural Resources: Mining, Oil, Gas \$107,317 60 \$45,327 11 \$85,543 46 \$68,956 16 \$90,044 133 Nonprofit \$89,103 105 \$32,500 2 \$66,705 26 \$83,230 5 \$83,850 138 Other \$109,099 308 \$37,825 20 \$66,924 159 \$73,755 57 \$90,156 544 Pharmaceutical, Medical, Biotech \$128,692 70 \$25,448 3 \$74,039 29 \$70,791 11 \$106,289 113 Professional Business Services \$112,335 159 \$48,769 20 \$66,486 104 \$70,271 57 \$87,520 340 Retail \$110,567 144 \$48,032 13 \$71,495 84 \$54,538 23 \$90,174 264 System and VAR Integration \$135,204 41 \$48,032 6 \$73,298 22 \$73,791 11 \$103,214 80 Telecommunications \$108,759 202 \$36,736 52 \$59,548 272 \$60,441 | Media, Film, Music | \$125,829 | 94 | \$32,164 | 4 | \$76,025 | 51 | \$62,512 | 12 | \$103,006 | 161 |
| Nonprofit\$89,103105\$32,5002\$66,70526\$83,2305\$83,850138Other\$109,099308\$37,82520\$65,924159\$73,75557\$90,156544Pharmaceutical, Medical, Biotech\$128,69270\$25,4483\$74,03929\$70,79111\$106,289113Professional Business Services\$112,335159\$48,76920\$66,486104\$70,27157\$87,520340Retail\$110,567144\$48,03213\$71,49584\$54,53823\$90,174264System and VAR Integration\$135,20441\$48,2476\$73,29822\$73,79111\$103,21480Telecommunications\$108,759202\$36,73652\$59,548272\$60,44184\$74,022610 | Natural Resources: Agriculture, Forestry, Fishing | \$95,452 | 14 | \$49,500 | 2 | \$82,038 | 6 | \$20,622 | 2 | \$82,033 | 24 |
| Other \$109,099 308 \$37,825 20 \$65,924 159 \$73,755 57 \$90,156 544 Pharmaceutical, Medical, Biotech \$128,692 70 \$25,448 3 \$74,039 29 \$70,791 11 \$106,289 113 Professional Business Services \$112,335 159 \$48,769 20 \$66,486 104 \$70,271 57 \$87,520 340 Retail \$110,567 144 \$48,032 13 \$71,495 84 \$54,538 23 \$90,174 264 System and VAR Integration \$135,204 41 \$48,247 6 \$73,298 22 \$73,791 11 \$103,214 80 Telecommunications \$108,759 202 \$36,736 52 \$59,548 272 \$60,441 84 \$74,022 610 | Natural Resources: Mining, Oil, Gas | \$107,317 | 60 | \$45,327 | 11 | \$85,543 | 46 | \$68,956 | 16 | \$90,044 | 133 |
| Pharmaceutical, Medical, Biotech\$128,69270\$25,4483\$74,03929\$70,79111\$106,289113Professional Business Services\$112,335159\$48,76920\$66,486104\$70,27157\$87,520340Retail\$110,567144\$48,03213\$71,49584\$54,53823\$90,174264System and VAR Integration\$135,20441\$48,2476\$73,29822\$73,79111\$103,21480Telecommunications\$108,759202\$36,73652\$59,548272\$60,44184\$74,022610 | Nonprofit | \$89,103 | 105 | \$32,500 | 2 | \$66,705 | 26 | \$83,230 | 5 | \$83,850 | 138 |
| Professional Business Services \$112,335 159 \$48,769 20 \$66,486 104 \$70,271 57 \$87,520 340 Retail \$110,567 144 \$48,032 13 \$71,495 84 \$54,538 23 \$90,174 264 System and VAR Integration \$135,204 41 \$48,247 6 \$73,298 22 \$73,791 11 \$103,214 80 Telecommunications \$108,759 202 \$36,736 52 \$59,548 272 \$60,441 84 \$40,22 610 | Other | \$109,099 | 308 | \$37,825 | 20 | \$65,924 | 159 | \$73,755 | 57 | \$90,156 | 544 |
| Retail \$110,567 144 \$48,032 13 \$71,495 84 \$54,538 23 \$90,174 264 System and VAR Integration \$135,204 41 \$48,247 6 \$73,298 22 \$73,791 11 \$103,214 80 Telecommunications \$108,759 202 \$36,736 52 \$59,548 272 \$60,441 84 \$74,022 610 | Pharmaceutical, Medical, Biotech | \$128,692 | 70 | \$25,448 | 3 | \$74,039 | 29 | \$70,791 | 11 | \$106,289 | 113 |
| System and VAR Integration \$135,204 41 \$48,247 6 \$73,298 22 \$73,791 11 \$103,214 80 Telecommunications \$108,759 202 \$36,736 52 \$59,548 272 \$60,441 84 \$74,022 610 | Professional Business Services | \$112,335 | 159 | \$48,769 | 20 | \$66,486 | 104 | \$70,271 | 57 | \$87,520 | 340 |
| Telecommunications \$108,759 202 \$36,736 52 \$59,548 272 \$60,441 84 \$74,022 610 | Retail | \$110,567 | 144 | \$48,032 | 13 | \$71,495 | 84 | \$54,538 | 23 | \$90,174 | 264 |
| | System and VAR Integration | \$135,204 | 41 | \$48,247 | 6 | \$73,298 | 22 | \$73,791 | 11 | \$103,214 | 80 |
| | Telecommunications | \$108,759 | 202 | \$36,736 | 52 | \$59,548 | 272 | \$60,441 | 84 | \$74,022 | 610 |
| Transportation or Public Utilities \$100,618 149 \$42,873 8 \$73,149 77 \$72,586 26 \$87,903 260 | Transportation or Public Utilities | \$100,618 | 149 | \$42,873 | 8 | \$73,149 | 77 | \$72,586 | 26 | \$87,903 | 260 |
| Wholesale \$102,563 23 \$69,000 1 \$74,793 10 \$68,315 6 \$89,644 40 | Wholesale | \$102,563 | 23 | \$69,000 | 1 | \$74,793 | 10 | \$68,315 | 6 | \$89,644 | 40 |

U.S. SALARIES

IT professionals in the U.S. have an average annual salary of \$113,639. U.S. decision-makers make \$141,024 a year.

While tenure, company size and job function certainly affect pay, geography is also a major salary influencer. The cost of living in the Mid-Atlantic and West Coast, for example, is higher than those in the Midwest. When you examine salaries by state, you'll notice that it's dominated by the East and West Coast.

California, which didn't crack our top five a year ago, has the highest average salaries in the country (\$134,531). Massachusetts, New Jersey, Virginia and the District of Columbia complete the top five. Connecticut, which had the highest U.S. salaries a year ago, ranks seventh this year.

Wyoming has the lowest salary by state in the U.S. (\$66,500), while Alaska, which was last a year ago, has climbed all the way to 31st (\$99,993).

SALARY BY STATE

Kentucky

\$95.914

Ohio

| State | Average | State | Average |
|----------------------|-----------|----------------|-----------|
| Alabama | \$94,810 | Louisiana | \$96,583 |
| Alaska | \$99,993 | Maine | \$84,916 |
| Arizona | \$117,814 | Maryland | \$124,952 |
| Arkansas | \$93,033 | Massachusetts | \$131,773 |
| California | \$134,531 | Michigan | \$100,391 |
| Colorado | \$116,995 | Minnesota | \$108,397 |
| Connecticut | \$125,337 | Mississippi | \$91,955 |
| Delaware | \$108,316 | Missouri | \$100,695 |
| District of Columbia | \$127,302 | Montana | \$84,570 |
| Florida | \$102,347 | Nebraska | \$98,711 |
| Georgia | \$109,403 | Nevada | \$98,239 |
| Hawaii | \$94,917 | New Hampshire | \$108,928 |
| Idaho | \$107,548 | New Jersey | \$131,640 |
| Illinois | \$111,847 | New Mexico | \$88,527 |
| Indiana | \$99,283 | New York | \$121,569 |
| lowa | \$95,120 | North Carolina | \$102,042 |
| Kansas | \$95,127 | North Dakota | \$80,808 |

\$103.814

CANADIAN SALARIES

The average annual salary in Canada is \$74,048. IT professionals in Quebec have the highest salaries in the country at \$77,897. Rounding out the five highest-paying Canadian provinces are Alberta (\$76,429), Ontario (\$76,304), British Columbia (\$70,949) and Saskatchewan (\$69,963).

Provinces with 10 or fewer respondents were omitted from this list.

SALARY BY PROVINCE

| Province | Average |
|------------------|----------|
| Alberta | \$76,429 |
| British Columbia | \$70,949 |
| Manitoba | \$62,551 |
| New Brunswick | \$49,040 |
| Nova Scotia | \$69,454 |
| Ontario | \$76,304 |
| Quebec | \$77,897 |
| Saskatchewan | \$69,963 |

SALARY BY EUROPEAN COUNTRY

| Country | Average |
|----------------|-----------|
| Belgium | \$81,290 |
| Czechia | \$45,434 |
| Finland | \$75,146 |
| France | \$85,475 |
| Germany | \$95,456 |
| Greece | \$38,397 |
| Hungary | \$39,115 |
| Ireland | \$86,663 |
| Italy | \$58,024 |
| Netherlands | \$75,919 |
| Norway | \$97,525 |
| Poland | \$43,493 |
| Romania | \$34,006 |
| Spain | \$53,611 |
| Sweden | \$77,477 |
| Switzerland | \$136,301 |
| United Kingdom | \$88,575 |

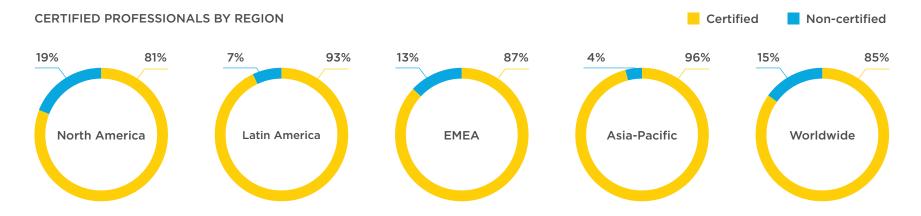
EUROPEAN SALARIES

Switzerland dominates the European salaries, with an average of \$136,301. Norway has the second highest salaries (\$97,525), followed by Germany (\$95,456), the United Kingdom (\$88,575), Ireland (\$86,663) and France (\$85,475).

European countries with fewer than 50 respondents were omitted from this list.

Certifications

Eighty-five percent of all IT professionals hold at least one certification. That number trends up to 96% in Asia-Pacific, 93% in Latin America and 87% in EMEA. North America (81%) is the only region below the global average.



Of that 85%, more than half earned their most recent certification in the past 12 months, while 66% are already pursuing their next certification or plan to at some point this year.

Certifications require an investment of time and money, but a strong majority of IT professionals aren't hesitating in their pursuit because they understand the value. Certifications still matter because the benefits are unmistakable for both the individual and the organization.

INDIVIDUAL AND ORGANIZATIONAL BENEFITS OF CERTIFICATIONS

In all regions, the salaries of certified professionals surpass the salaries of non-certified staff. The largest discrepancy between certified and non-certified staff is in Latin America (21% difference) and Asia-Pacific (11%). In North America, certified professionals make seven percent more than peers with no certifications.

The number of certifications earned also impacts salary. In North America, an individual with six or more IT certifications makes over \$10,000 more than those with just one certification on their resume. With few exceptions, each additional certification earned results in at least a minor salary bump.

SALARY BY NUMBER OF CERTIFICATIONS EARNED

| Number of Certifications Earned | North America | Latin America | EMEA | Asia-Pacific | Worldwide |
|---------------------------------|---------------|---------------|----------|--------------|-----------|
| None (0) | \$104,337 | \$34,722 | \$69,173 | \$59,415 | \$92,351 |
| 1 | \$106,780 | \$40,797 | \$63,019 | \$55,682 | \$86,938 |
| 2 | \$108,638 | \$38,456 | \$68,254 | \$62,664 | \$87,105 |
| 3 | \$114,209 | \$42,717 | \$70,195 | \$67,659 | \$89,928 |
| 4 | \$113,007 | \$41,213 | \$69,407 | \$61,618 | \$87,745 |
| 5 | \$110,448 | \$38,363 | \$73,392 | \$71,966 | \$89,669 |
| 6 or more | \$117,212 | \$48,180 | \$78,469 | \$76,301 | \$94,160 |

Beyond salary, IT professionals overwhelmingly report better job effectiveness after achieving a new certification.

- 52% say their expertise is more sought after within their organization
- 45% have implemented efficiencies
- 43% are faster at performing their job
- 23% say product/service deployments have gone smoother

The value of certification extends beyond individual benefits. Specifically, certified professionals are better at closing skills gaps, meeting client requirements, being more productive, taking less time to troubleshoot issues and completing projects more quickly.

CERTIFICATION CATEGORIES

The big money is in cloud computing certifications, with AWS and Google Cloud delivering high salaries across all regions.

Business architecture (e.g., TOGAF) is also associated with top salaries, ranking first in EMEA and Asia-Pacific, and second worldwide.

The most popular certification category is Cybersecurity, Governance, Compliance and Policy. Twenty-seven percent of all respondents have at least one certification in this category, while nearly 18% are ITIL®-certified. In North America, the most popular certification categories beyond cybersecurity are CompTIA, Microsoft and Cisco.

SALARY BY CERTIFICATION CATEGORY

| CERTIFICATION CATEGORY | NORTH / | NORTH AMERICA | | LATIN AMERICA | | EMEA | | ASIA-PACIFIC | | TOTAL | |
|--|-----------|---------------|-----------|---------------|-----------|-------|-----------|--------------|-----------|-------|--|
| CERTIFICATION CATEGORY | Average | Count | Average | Count | Average | Count | Average | Count | Average | Count | |
| Amazon Web Services (AWS) | \$129,868 | 580 | \$52,097 | 29 | \$85,363 | 301 | \$73,582 | 101 | \$108,764 | 1,011 | |
| Application Development / Programming | \$118,276 | 194 | \$45,214 | 18 | \$72,702 | 194 | \$71,552 | 45 | \$91,094 | 451 | |
| Avaya | \$99,969 | 28 | \$42,202 | 4 | \$65,748 | 20 | \$33,333 | 3 | \$79,762 | 55 | |
| Blockchain | \$126,182 | 22 | \$80,000 | 4 | \$90,003 | 16 | \$54,927 | 15 | \$92,876 | 57 | |
| Business analysis | \$100,775 | 119 | \$108,641 | 7 | \$86,255 | 73 | \$73,515 | 24 | \$93,335 | 223 | |
| Business achitecture | \$138,980 | 91 | \$84,008 | 14 | \$101,740 | 120 | \$103,491 | 38 | \$113,934 | 263 | |
| Business process | \$121,103 | 181 | \$68,552 | 20 | \$81,036 | 87 | \$72,489 | 39 | \$101,431 | 327 | |
| Cisco | \$101,533 | 825 | \$33,056 | 160 | \$54,852 | 692 | \$50,906 | 316 | \$71,800 | 1,993 | |
| Citrix | \$109,456 | 359 | \$38,988 | 41 | \$70,130 | 277 | \$51,238 | 129 | \$83,038 | 806 | |
| Cloud Credential Council | \$149,002 | 22 | \$80,000 | 1 | \$99,402 | 14 | \$90,915 | 13 | \$118,631 | 50 | |
| CompTIA | \$93,097 | 1,321 | \$36,493 | 31 | \$58,267 | 184 | \$70,754 | 59 | \$87,152 | 1,595 | |
| Cybersecurity, Governance, Compliance and Policy | \$119,742 | 1,676 | \$46,406 | 128 | \$75,841 | 817 | \$71,358 | 648 | \$96,308 | 3,269 | |
| Data center | \$131,678 | 38 | \$45,055 | 11 | \$80,436 | 46 | \$68,466 | 25 | \$90,925 | 120 | |
| Database | \$116,961 | 161 | \$55,265 | 10 | \$67,935 | 146 | \$82,048 | 54 | \$90,923 | 371 | |
| Dell EMC | \$111,332 | 69 | \$58,115 | 7 | \$77,278 | 46 | \$52,030 | 12 | \$91,641 | 134 | |
| DevOps | \$133,208 | 66 | \$68,630 | 9 | \$79,282 | 49 | \$66,688 | 16 | \$102,580 | 140 | |
| Google Cloud | \$147,357 | 351 | \$50,220 | 44 | \$96,041 | 279 | \$81,005 | 150 | \$112,716 | 824 | |
| Help desk | \$83,981 | 53 | \$72,463 | 3 | \$83,632 | 17 | \$89,809 | 4 | \$83,758 | 77 | |
| HP | \$110,123 | 62 | \$61,750 | 8 | \$63,394 | 74 | \$58,639 | 8 | \$82,118 | 152 | |
| IBM | \$125,644 | 97 | \$58,106 | 9 | \$76,270 | 71 | \$55,036 | 33 | \$94,961 | 210 | |
| ITIL and IT service management | \$113,723 | 892 | \$45,784 | 125 | \$74,832 | 763 | \$71,159 | 369 | \$88,654 | 2,149 | |
| Juniper Networks | \$122,544 | 54 | \$40,940 | 11 | \$66,786 | 65 | \$62,565 | 29 | \$83,165 | 159 | |
| Microsoft | \$104,127 | 1,044 | \$40,353 | 76 | \$67,504 | 661 | \$68,712 | 229 | \$85,637 | 2,010 | |
| Networking | \$112,052 | 150 | \$43,261 | 13 | \$73,715 | \$84 | \$63,474 | 34 | \$91,532 | 281 | |
| Nutanix | \$119,166 | 52 | \$35,784 | 9 | \$75,551 | 45 | \$56,565 | 14 | \$89,253 | 120 | |
| Other | \$113,831 | 1,225 | \$46,519 | 121 | \$71,633 | 756 | \$65,212 | 336 | \$90,705 | 2,438 | |
| Project management | \$125,797 | 620 | \$57,028 | 45 | \$82,272 | 454 | \$81,743 | 171 | \$102,240 | 1,290 | |
| Red Hat / Linux | \$113,165 | 164 | \$35,834 | 18 | \$75,659 | 109 | \$58,305 | 51 | \$88,960 | 342 | |
| Veeam | \$118,657 | 34 | \$23,354 | 7 | \$67,884 | 35 | \$107,231 | 4 | \$87,534 | 80 | |
| VMware | \$113,233 | 312 | \$42,398 | 43 | \$70,152 | 228 | \$63,385 | 95 | \$87,269 | 678 | |
| Web development | \$105,888 | 110 | \$49,456 | 8 | \$67,627 | 56 | \$52,752 | 9 | \$89,100 | 183 | |
| Wireless | \$106,480 | 71 | \$38,983 | 13 | \$66,698 | 56 | \$62,240 | 19 | \$81,664 | 159 | |
| | | | | | | | | | | | |

TOP-PAYING CERTIFICATIONS

Earning potential may not be the top reason IT professionals choose to get certified, but it's a positive byproduct that's nearly impossible to ignore. Annually, this report has determined that certified professionals earn more than non-certified professionals. But which certifications pay the most?

This year, we ranked the top-paying certifications by region, so IT professionals, no matter where they live, can have a clearer picture of which credentials can most benefit their earning potential.

Keep in mind, nearly 70% of IT professionals hold more than one certification. These lists do not necessarily indicate that one sole certification will generate these salaries. For example, of the 727 professionals worldwide who hold the AWS Solutions Architect-Associate credential, 37% have earned six or more certifications. While these certifications have proven their value when it comes to salary and career enhancement, cross-certification is a significant contributor when it comes to the world's highest IT salaries.

North America

Between Google Cloud and AWS, cloud computing certifications make up four of the 10 top-paying North American certifications. (Note: For only U.S. data, check out the <u>15 Top-Paying IT Certifica-</u><u>tions for 2019</u>.)

Citrix has the most certifications in the top 20 with four (CCE-V, CCP-V, CCA-N and CCA-V). AWS and ISACA each have three. Between Certified ScrumMaster and PMP[®] – Project Management Professional, two project management credentials crack the top 10.

(ISC)²'s CISSP – Certified Information Systems Security Professional ranks 10th (\$123,815) this year.

To be included in the list, a certification must have had at least 100 North American responses.

TOP-PAYING CERTIFICATIONS NORTH AMERICA

| Certification | Average | Count |
|--|-----------|-------|
| GCP Cloud Architect | \$152,129 | 250 |
| CISM | \$132,919 | 334 |
| Certified ScrumMaster | \$132,903 | 179 |
| AWS Certified Solutions Architect - Associate | \$130,883 | 416 |
| AWS Certified SysOps Administrator - Associate | \$130,610 | 138 |
| AWS Certified Developer - Associate | \$130,272 | 191 |
| Project Management Professional | \$129,457 | 351 |
| CRISC | \$128,556 | 217 |
| CCE-V | \$125,870 | 101 |
| CISSP | \$123,815 | 1,071 |

Latin America

TOGAF 9.1 is the highest-paying certification in Latin America, with an average annual salary of \$74,646. TOGAF is an Open Group certification that validates the ability to analyze and apply knowledge of enterprise architecture.

Six Sigma Green Belt is second at \$71,532 while PMP® comes in third at \$63,064. Cisco has a strong showing as well in Latin America, with CCIE Routing and Switching, CCNP Collaboration and Cisco Certified Design Professional (CCDP) making the top 20.

Twenty-nine percent of IT professionals have their ITIL Foundation credential, making it the most popular certification in Latin America.

To be included in the list, a certification must have had at least 10 Latin American responses.

EMEA

Similar to North America, GCP Cloud Architect is the top-paying certification in EMEA (\$103,448). Another Google certification, GCP Data Engineer, is third with an average salary of \$97,175.

With Certified ScrumMaster, PMP[®], PRINCE2 Practitioner and PRINCE2 Foundation, EMEA has four top-paying project management certifications in the top 20, the most of any region.

Like Latin America, ITIL Foundation is the most popular certification but it barely cracks the top 20 with an average salary of \$74,050.

To be included in the list, a certification must have had at least 75 EMEA responses.

TOP-PAYING CERTIFICATIONS LATIN AMERICA

| Certification | Average | Count |
|---|----------|-------|
| TOGAF 9.1 | \$74,646 | 11 |
| Six Sigma Green Belt | \$71,532 | 12 |
| Project Management Professional | \$63,064 | 27 |
| CCIE Routing and Switching | \$57,685 | 10 |
| CISSP | \$57,168 | 16 |
| AWS Certified Solutions Architect - Associate | \$56,193 | 20 |
| VCA6-DCV | \$53,284 | 12 |
| COBIT 5 Foundation | \$52,412 | 22 |
| CRISC | \$52,255 | 26 |
| GCP Cloud Architect | \$50,636 | 27 |

TOP-PAYING CERTIFICATIONS EMEA

| Certification | Average | Count |
|---|-----------|-------|
| GCP Cloud Architect | \$103,448 | 199 |
| TOGAF 9.1 | \$99,402 | 103 |
| GCP Data Engineer | \$97,175 | 98 |
| CISSP | \$95,340 | 167 |
| PRINCE2 Practitioner | \$87,987 | 110 |
| AWS Certified Solutions Architect - Associate | \$87,641 | 220 |
| AWS Certified Developer - Associate | \$86,457 | 92 |
| CRISC | \$85,427 | 175 |
| Certified ScrumMaster | \$83,221 | 119 |
| CISM | \$83,193 | 346 |

Asia-Pacific

TOGAF 9.1 takes the top spot in Asia-Pacific with an average salary of \$102,503. ISACA dominates the top 10 in Asia-Pacific, with three certifications aligned with high salaries: Certified in the Governance of Enterprise IT (CGEIT), Certified in Risk and Information Systems Control (CRISC), and Certified Information Security Manager (CISM). ISACA's Certified Information Systems Auditor ranks 15th in the region and is the most popular as well, with 458 professionals having earned their CISA.

Microsoft makes its strongest showing in Asia-Pacific with three top-paying certifications in the top 20: MCSE: Server Infrastructure, MCSA: Windows Server 2008, and MCSA: Windows Server 2012.

To be included in the list, a certification must have had at least 30 Asia-Pacific responses.

Worldwide

AWS Certified Solutions Architect – Professional topped our worldwide list with an average salary of \$120,136. Another cloud certification, GCP Cloud Architect (\$118,756), is the second highest-paying certification, while CISSP (\$116,573) is third.

Three other AWS certifications make the worldwide top 10, with AWS Certified SysOps Administrator – Associate at No. 5, AWS Certified Developer – Associate at No. 8, and AWS Certified Solutions Architect – Associate at No. 9.

TOGAF 9.1, which is the top-paying certification in both Latin America and Asia-Pacific, is seventh worldwide with a salary of \$111,984.

To be included in the list, a certification must have had at least 100 worldwide responses.

TOP-PAYING CERTIFICATIONS ASIA-PACIFIC

| Certification | Average | Count |
|---------------------------------|-----------|-------|
| TOGAF 9.1 | \$102,503 | 32 |
| GCP Data Engineer | \$98,254 | 60 |
| CGEIT | \$94,147 | 32 |
| CRISC | \$93,582 | 104 |
| CISSP | \$91,688 | 131 |
| GCP Cloud Architect | \$88,160 | 113 |
| CISM | \$85,443 | 215 |
| Project Management Professional | \$85,305 | 106 |
| MCSE: Server Infrastructure | \$79,890 | 51 |
| MCSA: Windows Server 2008 | \$78,527 | 39 |

TOP-PAYING CERTIFICATIONS WORLDWIDE

| Certification | Average | Count |
|--|-----------|-------|
| AWS Certified Solutions Architect - Professional | \$120,136 | 170 |
| GCP Cloud Architect | \$118,756 | 589 |
| CISSP | \$116,573 | 1,385 |
| GCP Data Engineer | \$114,888 | 266 |
| AWS Certified SysOps Administrator - Associate | \$114,800 | 222 |
| TOGAF 9.1 | \$111,984 | 216 |
| Project Management Professional | \$111,196 | 561 |
| AWS Certified Developer - Associate | \$111,178 | 307 |
| AWS Certified Solutions Architect - Associate | \$110,429 | 727 |
| GCP Associate Cloud Engineer | \$106,044 | 158 |

MOST POPULAR CERTIFICATIONS

Cybersecurity

Cybersecurity certifications are the most popular worldwide, with 27% of respondents having a cyber certification and another 25% planning to pursue one this year.

The most popular cyber certification in North America is CISSP while CISA is the most popular in all other regions. ISACA's CISM and CRISC rank in the top five in popularity of all regions as well.

ITIL®

Not surprisingly, ITIL Foundation is the most popular ITIL certification, held by 93% of ITIL pros in North America. That number rises to 95% in Latin America.

ITIL Practitioner is the second most popular IT service management certification in North America, followed by ITIL Service Lifecycle: Service Operation, ITIL Service Lifecycle: Service Transition, and DevOps Foundation / Fundamentals.

CompTIA

Security+, A+ and Network+ are by far the most popular CompTIA certifications worldwide. In North America, 62% have their Security+, the most of any region.

Project management

The top two project management certifications in North America are PMP® (57%) and Certified ScrumMaster (29%). In other regions, PRINCE2 Foundation is far more popular, ranking first in EMEA and second in Asia-Pacific.

AWS

The most commonly held AWS certifications by AWS-certified professionals are:

- AWS Certified Solutions Architect - Associate - 72%
- AWS Certified Developer Associate - 33%
- AWS Certified SysOps Administrator
 Associate 24%
- AWS Certified Solutions Architect Professional - 16%

The same AWS certifications have similar percentages across all regions. AWS Certified Cloud Practitioner is another popular credential that cracked the top five in most regions.

Google Cloud

Google Cloud's most popular certifications were the same across all regions:

- GCP Cloud Architect
- GCP Data Engineer
- GCP Associate Engineer

Microsoft

Microsoft certifications are held by 16% of survey respondents. The retired Microsoft Certified Professional (MCP) and Microsoft Certified Trainer (MCT) were two of the most popular certifications in this category. MCSE: Server Infrastructure is held by 20% of Microsoft-certified professionals in North America, followed closely by MCSA: Windows Server 2008 (19%) and MCSA: Windows Server 2012 (17%).

Cisco

Cisco certifications are held by 16% of all IT professionals. Similar to 2018, CCNA Routing and Switching is the most commonly-held Cisco certification worldwide. Cisco-certified staff are most often certified in:

- CCNA Routing and Switching 71%
- CCNP Routing and Switching 33%
- CCNA Security 18%
- CCENT: Cisco Certified Entry Networking Technician - 15%
- CCDA: Cisco Certified Design Associate - 13%

MOST POPULAR CERTIFICATIONS

Citrix

The top five Citrix certifications for Citrix-certified professionals in North America are:

- Citrix Certified Associate -Virtualization (CCA-V) - 53%
- Citrix Certified Associate -Networking (CCA-N) - 32%
- Citrix Certified Professional -Virtualization (CCP-V) - 32%
- Citrix Certified Expert -Virtualization (CCE-V) - 28%
- Citrix Certified Professional -Networking (CCP-N) - 25%

VMware

VMware Certified Associate 6 - Data Center Virtualization (VCA6-DCV) is held by over 27% of VMware-certified professionals in North America, Asia-Pacific and Latin America. In EMEA, the most common VMware certification is VMware Certified Professional 5 - Data Center Virtualization (VCP5-DCV).

Red Hat

The most popular North American Red Hat certifications for Red Hat professionals are:

- Certified System Administrator - 33%
- LPIC-1 26%
- Certified Engineer 18%
- Linux Essentials 18%

CROSS-CERTIFICATION

In North America, average salaries jump over two percent with each certification earned. The increases are slightly smaller in other regions, but the results follow a similar trend—the more certifications earned, the higher the salary.

As IT professionals pursue more certifications, many seek to cross-certify and earn multiple certifications in different categories. Essentially, those looking to crosscertify are also looking to expand their skills across various technologies. In doing so, there's a strong chance their salaries will increase as well.

Cross-certifying with an AWS certification is universally a great way to boost salary. The average Cisco-certified professional in North America earns \$101,533 a year. When those same Cisco professionals add an AWS certification to their resume, their salaries increase by over \$10,000 a year.

Microsoft-certified professionals earn \$104,127. Those that cross-certify in AWS see an average boost in salary to \$111,848.

BENEFITS OF CROSS-CERTIFYING WITH AWS

| Certification | Average Salary | Average with AWS Certification |
|--------------------------------|----------------|--------------------------------|
| Cisco | \$101,533 | \$111,869 |
| Citrix | \$109,456 | \$121,885 |
| CompTIA | \$93,097 | \$103,542 |
| ITIL and IT service management | \$113,723 | \$119,191 |
| Microsoft | \$104,127 | \$111,848 |
| Red Hat / Linux | \$113,165 | \$125,718 |
| VMware | \$113,233 | \$123,610 |

Cross-certifying with an ISACA certification can also result in a nice salary bump. AWS-certified professionals who are also certified in ISACA enjoy a 24% salary bump. Similar salary bumps exist for ISACA professionals who cross-certify in CompTIA (31%), Cisco (23%) and Microsoft (21%). Cybersecurity certifications traditionally pay well, but ISACA certifications in general are highly sought in the industry and are typically associated with some of the highest-paying IT salaries.

Certification Resources

Clearly the value of becoming certified has positive impacts on both the organization and one's career. We have a collection of resources to help you navigate your own certification journey.

If you're starting your journey, read How to Select the Right Certification for You.

If you've decided to get certified but want to ensure you select a proven certification with staying power, check out <u>18 Certifica-</u> tions Worth Having.

Certification Tracks

Certification tracks provide easy-to-follow roadmaps of the steps and courses you need to take as you pursue a certification.

Certifications take a lot of time and energy, so before you embark on your journey, make sure you're fully aware of the courses and exam prep available, and what's required or optional.

• <u>AWS</u>

- Check out our AWS Cert Prep Toolkits
- **Business Analysis**
- <u>Cisco</u>
- Learn about the certification changes coming in 2020 at www.globalknowledge.com/ciscocertificationhub
- Google Cloud
- <u>ITIL</u>®

- Microsoft
- Microsoft Azure
- Project Management
- Red Hat
- Enterprise Linux
- Jboss Middleware
- <u>OpenStack</u>
- VMware

Certification Prep Guides

These "How to Become a" certification prep guides highlight the critical knowledge, skills and abilities you need to achieve each certification. Download them for free.

- <u>Microsoft Certified Azure Administrator Associate</u>
- <u>Microsoft Certified Azure Developer Associate</u>
- <u>Microsoft Certified Azure Solutions Architect Expert</u>
- <u>Google Certified Professional Cloud Architect</u>
- <u>Google Certified Professional Data Engineer</u>

- AWS Certified Architect
- <u>AWS Certified SysOps Administrator</u>
- Project Management Professional
- Build an IT Career with CompTIA Certifications

Certification Exam Tips

• Six Certification Exam Mistakes to Avoid

• <u>10 Certification Exam Tips and Tricks from the Experts</u>

"Chance favors only the prepared mind."

- Louis Pasteur

Conclusion

Salaries are up across IT and around the globe. While the same percentage of IT professionals received a raise this year compared to 2018, the percentage of that raise was up in every region. It's certainly a good time to start—or expand—your career in IT.

But this report isn't just about salaries. The top-paying jobs, industries and certifications are associated with high salaries for a reason—those are the skills most coveted (and most needed) in IT departments. Cloud computing jobs generally pay well because cloud skills are in high demand and decision-makers can't fill cloud positions quickly enough. Specifically, cloud architect is where the big money is—the top two highest-paying certifications in the world revolve around this job role.

Cybersecurity certifications are the most popular worldwide because hackers are becoming more sophisticated in their attacks. These are the critical skills needed in every organization.

Another trend to note is that certifications don't seem to be as important to North American IT professionals compared to all other regions. Only 81% of North American respondents are certified, which is down four percent from a year ago. With the salary and performance benefits of certification, IT professionals should be constantly looking to upgrade their skills and if they're not currently pursing a certification, they should have one in their near-term plans.

Certifications aren't just about adding a gold star to your resume. The skills and knowledge gained through proper certification prep is exactly what IT departments need right now. Skills gaps are harming organizations and the best antidote is upskilled employees. Preparing for a certification is one of the best ways to add the critical skills that IT departments need right now.

SURVEY METHODOLOGY

The 2019 IT Skills and Salary Survey was conducted online from September 2018 through November 2018, using the Qualtrics Insight Platform.

Global Knowledge and partner companies and organizations emailed survey invitations to recipients from their databases. Links were also provided in online newsletters. The survey yielded 12,271 completed responses, with 54% coming from the United States and Canada and the remainder from countries around the world. The online survey was tabulated using IBM SPSS and Q Research software.

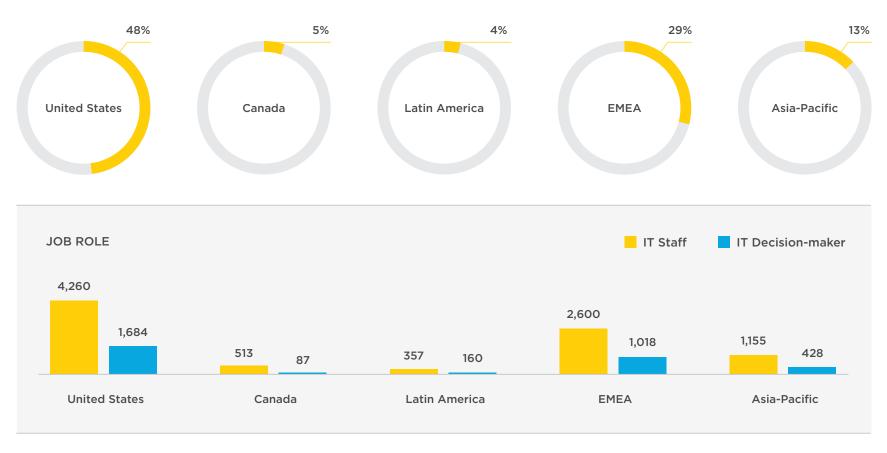
THANKS TO OUR PARTNERS

Global Knowledge extends a special thank you to our partners for helping make this year's survey possible:



DEMOGRAPHICS





AVERAGE AGE



2019 IT SKILLS AND SALARY REPORT

DEMOGRAPHICS



²⁰¹⁹ IT SKILLS AND SALARY REPORT

About Global Knowledge

Global Knowledge builds skills that enable success.

Global Knowledge is the worldwide leader in IT and professional training, helping develop the skills individuals and organizations need to succeed in the ever-changing world. To meet customer needs, Global Knowledge is located in 15 countries, and has the unique flexibility to deliver a broad portfolio of courses in over 100 countries in classrooms, online, and through a worldwide partner network.

Established in 1995, Global Knowledge has 1,500 employees worldwide, including award-winning instructors widely considered the best in the industry. Confirmed as the world's leading training provider, Global Knowledge enables the success of more than 300,000 professionals each year.

www.globalknowledge.com

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