

2019 IT Skills and Salary Report

Salary and Certifications

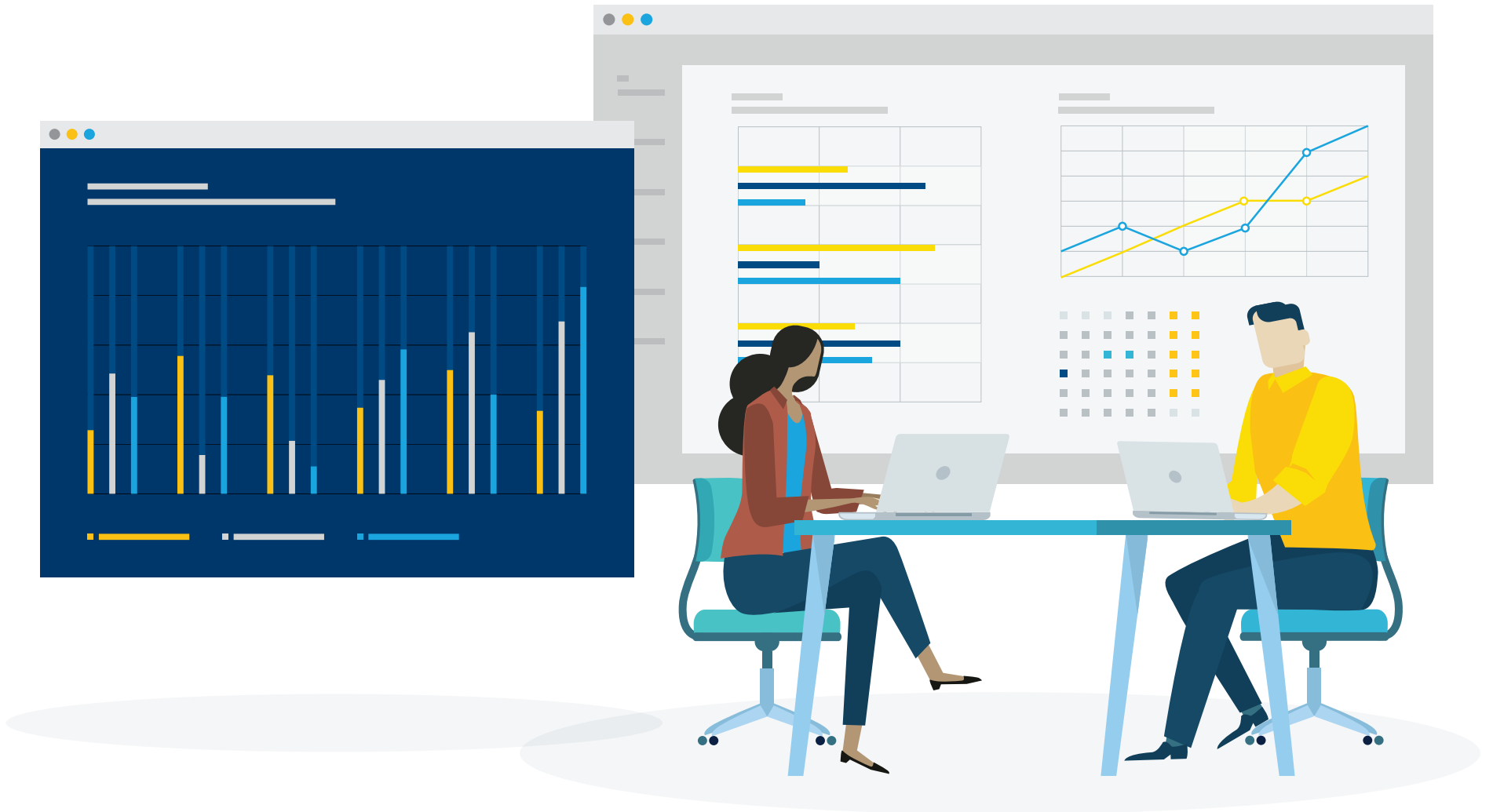


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Introduction

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!)

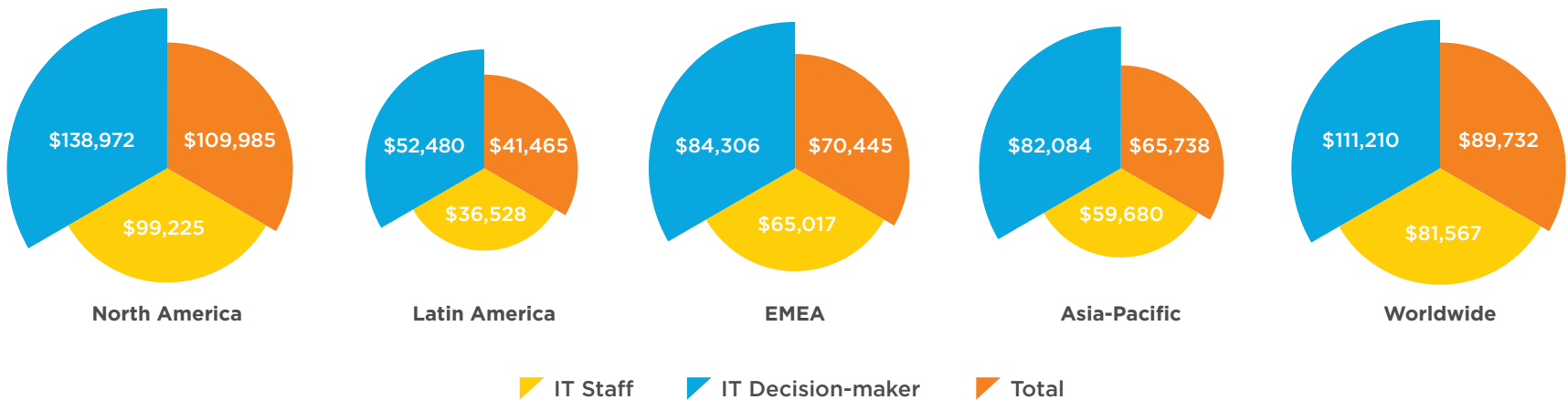
Compensation

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.

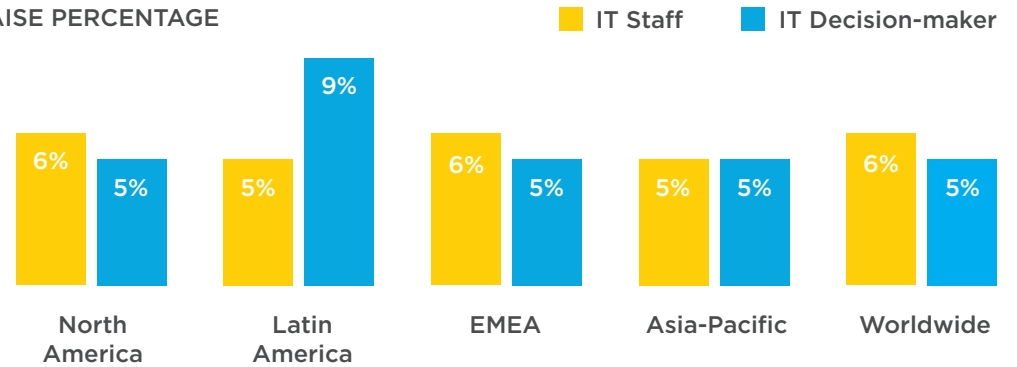
Reasons for a raise

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.

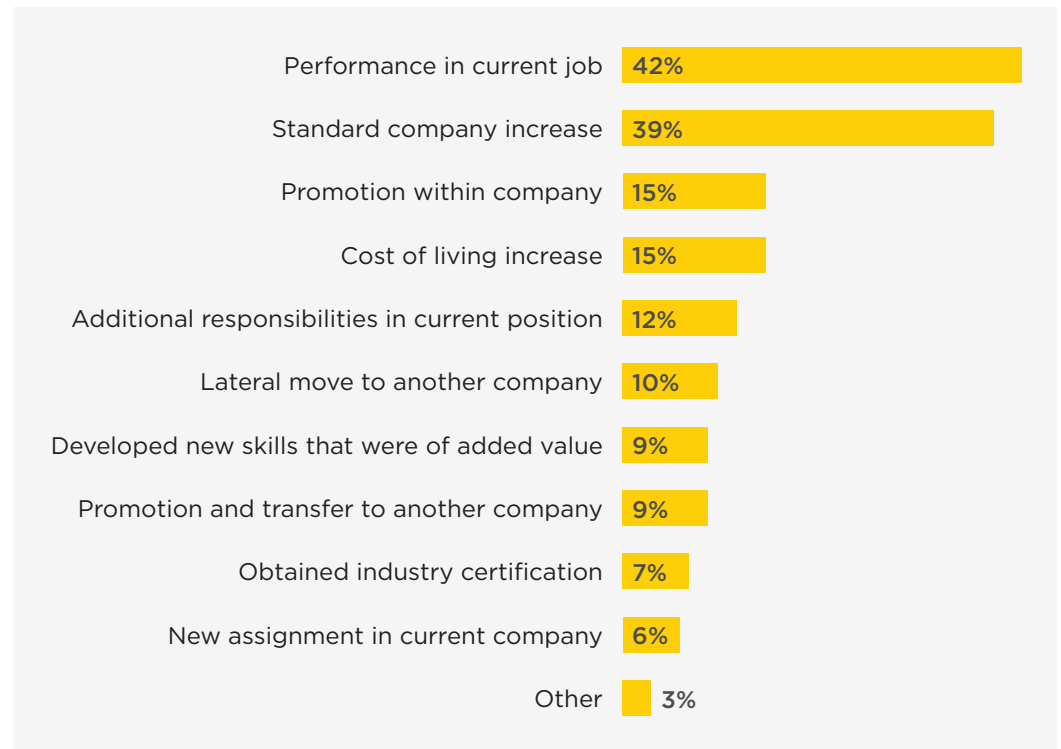
The reason for a raise impacts the amount of the raise. Nine percent of IT professionals attribute their raise to adding new skills—those same individuals earned nearly \$12,000 more than last year, a strong indication that training pays off.

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.

RAISE PERCENTAGE

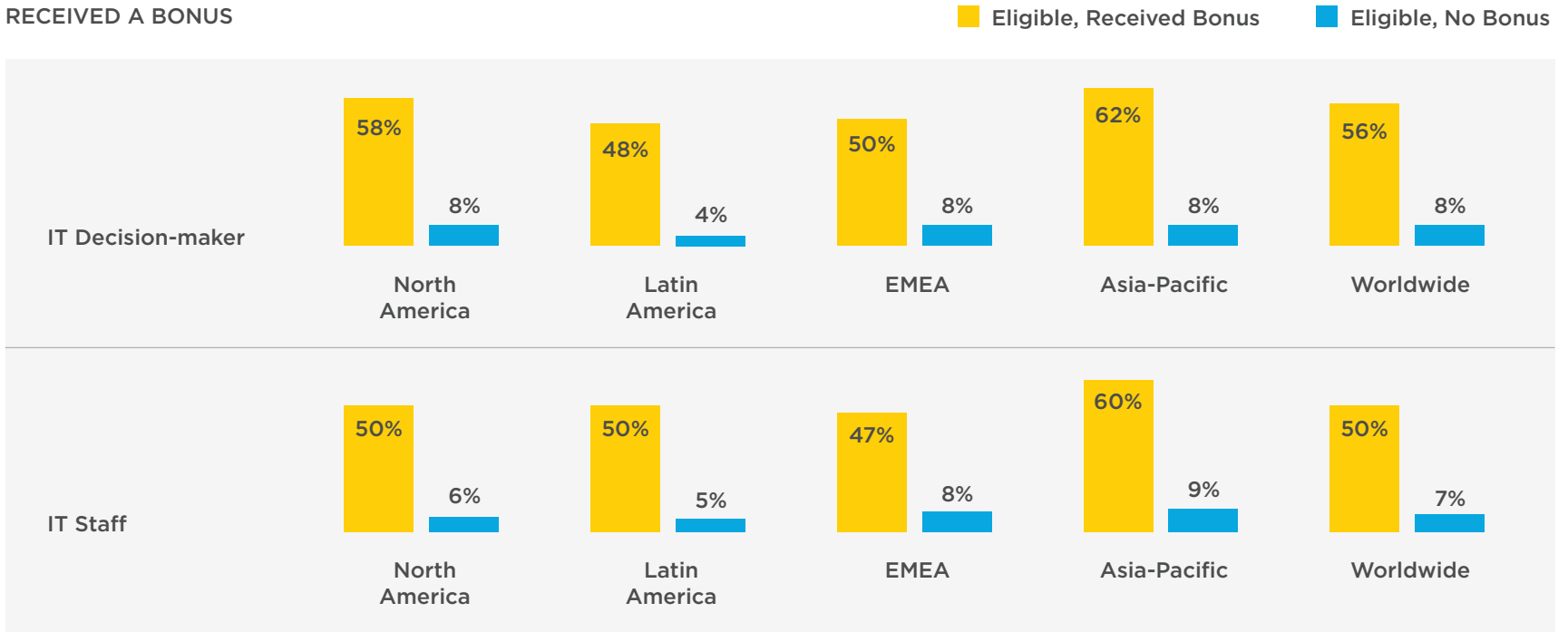


FACTORS FOR INCREASED SALARY



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.

RECEIVED A BONUS



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 America			
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-Pacific			
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%
Worldwide			
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 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.

COMPANY SIZE

NUMBER OF EMPLOYEES	NORTH AMERICA		LATIN AMERICA		EMEA		ASIA-PACIFIC		WORLDWIDE	
	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%

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.

CAREER EXPERIENCE

YEARS	NORTH AMERICA		LATIN AMERICA		EMEA		ASIA-PACIFIC		WORLDWIDE	
	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%

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

INDUSTRY	NORTH AMERICA		LATIN AMERICA		EMEA		ASIA-PACIFIC		WORLDWIDE	
	Average	Respondents	Average	Respondents	Average	Respondents	Average	Respondents	Average	Respondents
Aerospace / Defense	\$118,231	208	\$30,695	3	\$69,830	27	\$106,659	9	\$111,456	247
Banking and Finance	\$113,960	668	\$41,643	71	\$71,665	494	\$67,652	304	\$87,866	1,537
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	\$64,657	24	\$80,814	560
Government: Military and Homeland Security	\$108,224	364	\$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	\$108,461	76	\$28,311	5	\$65,021	36	\$76,478	8	\$90,697	125
Insurance, Real Estate, Legal	\$106,749	315	\$39,799	16	\$77,925	106	\$74,293	45	\$95,158	482
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 Software	\$132,390	599	\$44,498	39	\$75,359	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	\$101,007	289	\$47,547	19	\$77,509	146	\$59,593	69	\$87,041	523
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	\$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
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

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

State	Average	State	Average	State	Average
Alabama	\$94,810	Louisiana	\$96,583	Oklahoma	\$94,734
Alaska	\$99,993	Maine	\$84,916	Oregon	\$114,689
Arizona	\$117,814	Maryland	\$124,952	Other U.S. territories	\$92,650
Arkansas	\$93,033	Massachusetts	\$131,773	Pennsylvania	\$104,599
California	\$134,531	Michigan	\$100,391	Puerto Rico	\$59,766
Colorado	\$116,995	Minnesota	\$108,397	Rhode Island	\$118,300
Connecticut	\$125,337	Mississippi	\$91,955	South Carolina	\$101,224
Delaware	\$108,316	Missouri	\$100,695	South Dakota	\$92,627
District of Columbia	\$127,302	Montana	\$84,570	Tennessee	\$92,512
Florida	\$102,347	Nebraska	\$98,711	Texas	\$112,191
Georgia	\$109,403	Nevada	\$98,239	Utah	\$100,050
Hawaii	\$94,917	New Hampshire	\$108,928	Vermont	\$86,775
Idaho	\$107,548	New Jersey	\$131,640	Virginia	\$129,143
Illinois	\$111,847	New Mexico	\$88,527	Washington	\$125,883
Indiana	\$99,283	New York	\$121,569	West Virginia	\$109,279
Iowa	\$95,120	North Carolina	\$102,042	Wisconsin	\$101,768
Kansas	\$95,127	North Dakota	\$80,808	Wyoming	\$66,500
Kentucky	\$95,914	Ohio	\$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.

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.

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

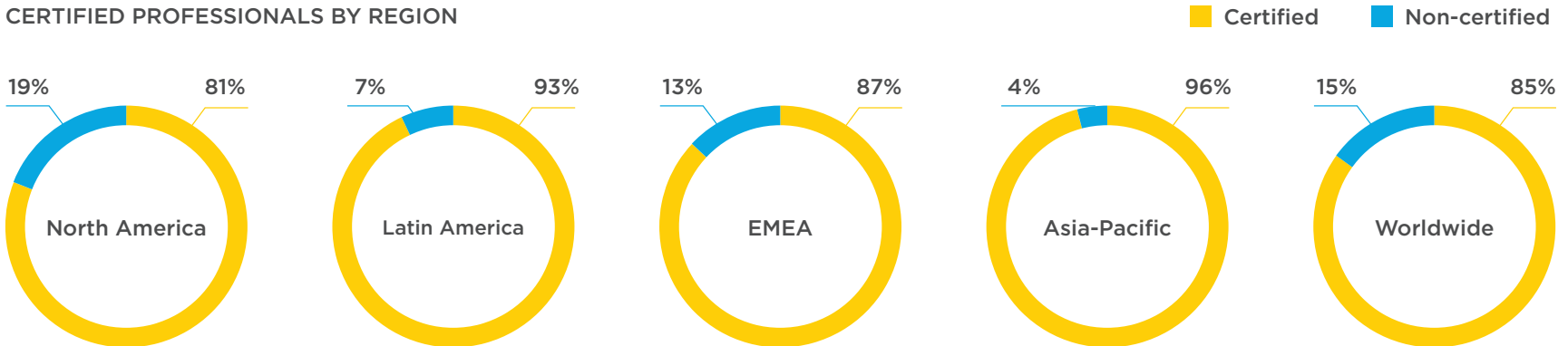
SALARY BY EUROPEAN COUNTRY

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

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.

CERTIFIED PROFESSIONALS BY REGION



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 AMERICA		LATIN AMERICA		EMEA		ASIA-PACIFIC		TOTAL	
	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 architecture	\$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 [15 Top-Paying IT Certifications for 2019](#).)

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 cross-certify 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 [18 Certifications 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.

- [AWS](#)
 - Check out our [AWS Cert Prep Toolkits](#)
- [Business Analysis](#)
- [Cisco](#)
 - Learn about the certification changes coming in 2020 at www.globalknowledge.com/cisocertificationhub
- [Google Cloud](#)
- [ITIL®](#)
- [Microsoft](#)
- [Microsoft Azure](#)
- [Project Management](#)
- Red Hat
 - [Enterprise Linux](#)
 - [Jboss Middleware](#)
 - [OpenStack](#)
- [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.

- [Microsoft Certified Azure Administrator Associate](#)
- [Microsoft Certified Azure Developer Associate](#)
- [Microsoft Certified Azure Solutions Architect Expert](#)
- [Google Certified Professional Cloud Architect](#)
- [Google Certified Professional Data Engineer](#)
- [AWS Certified Architect](#)
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- [Build an IT Career with CompTIA Certifications](#)

Certification Exam Tips

- [Six Certification Exam Mistakes to Avoid](#)
- [10 Certification Exam Tips and Tricks from the Experts](#)

“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 pursuing 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.

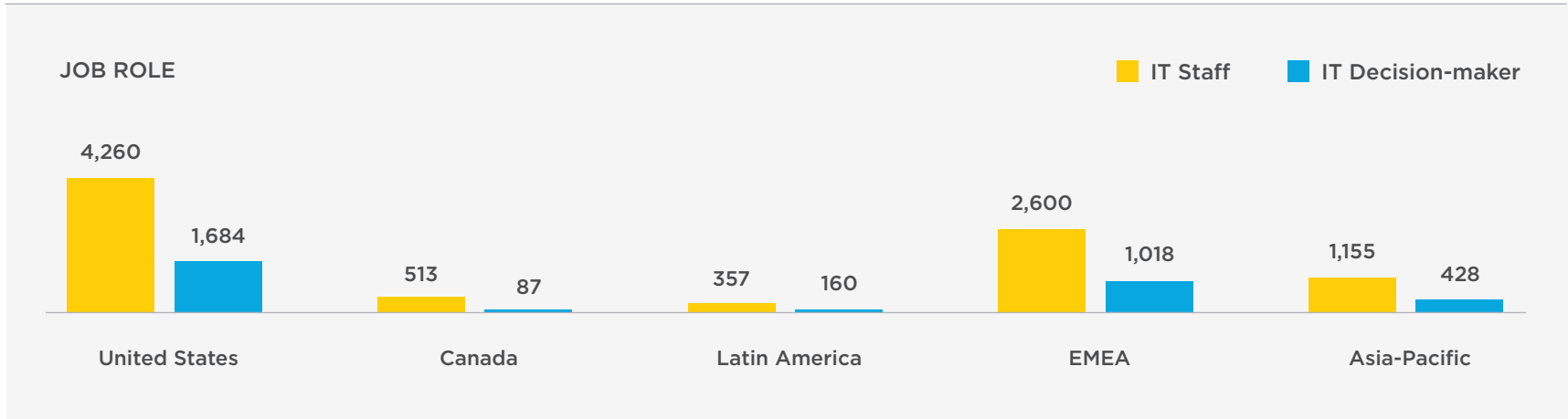
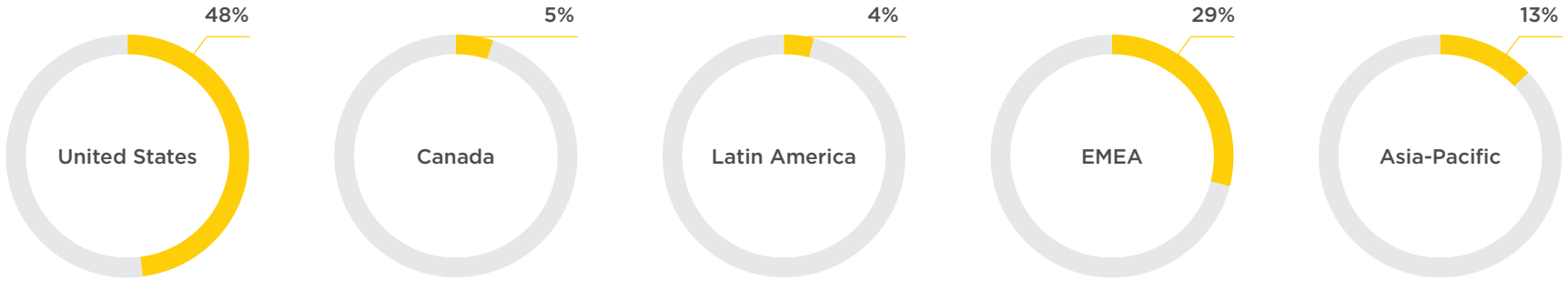
THANKS TO OUR PARTNERS

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

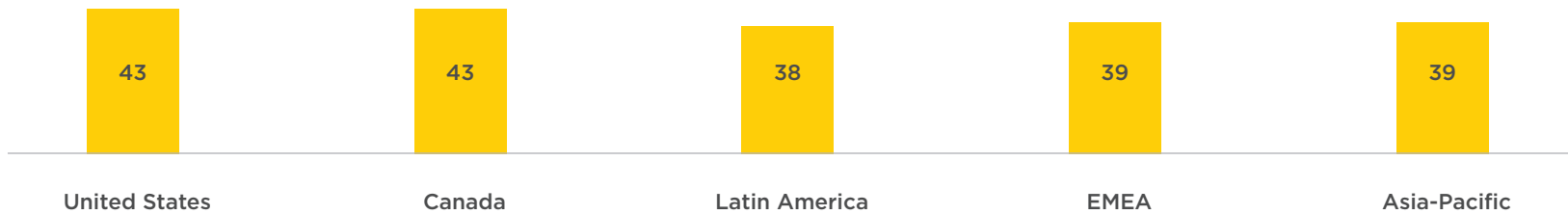


DEMOGRAPHICS

RESIDING COUNTRY OR REGION

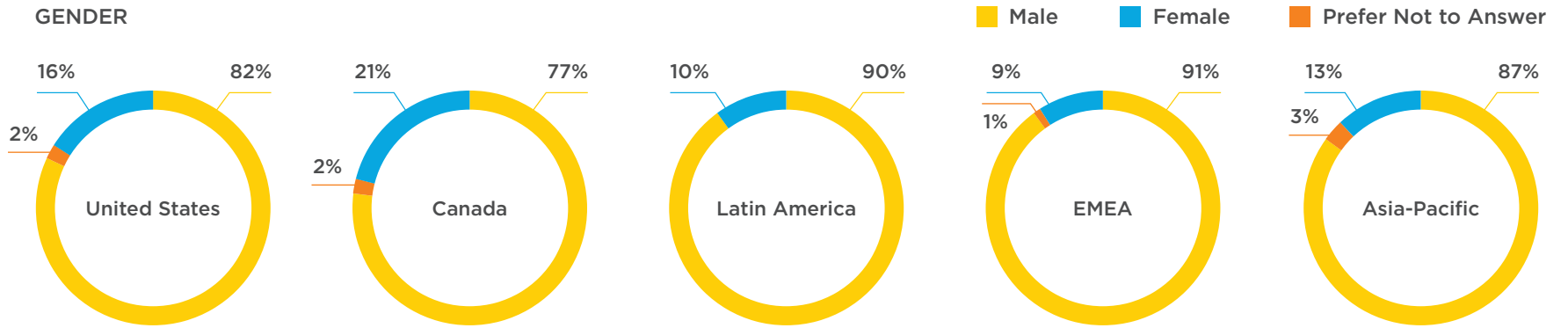


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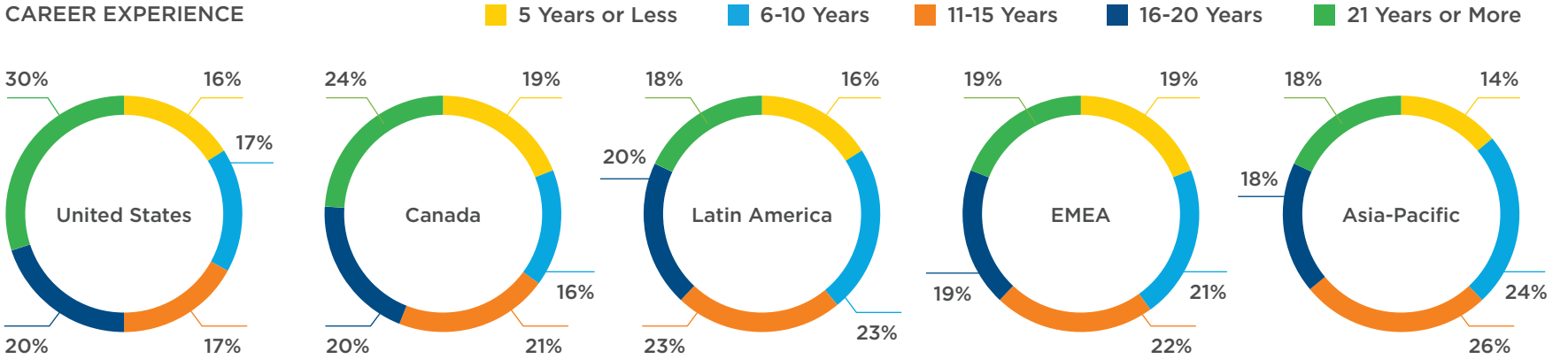


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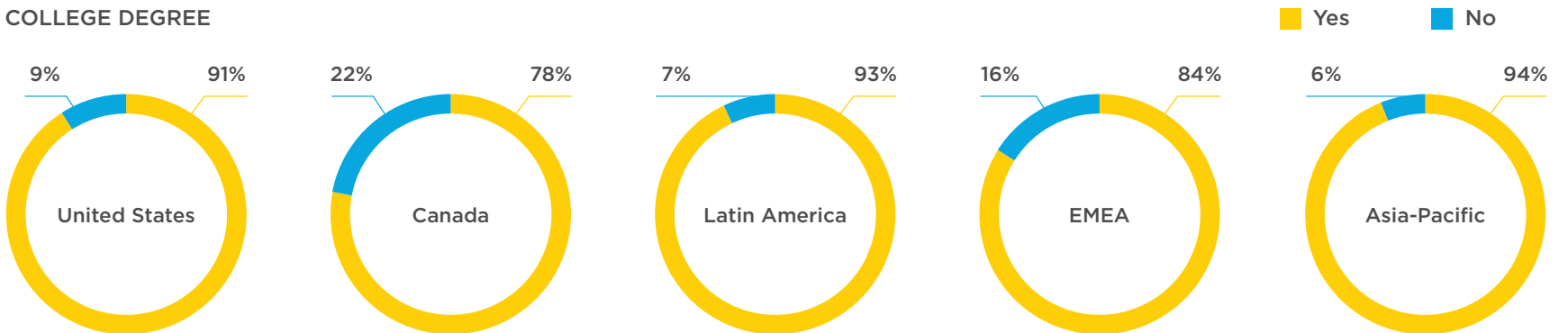
GENDER



CAREER EXPERIENCE



COLLEGE DEGREE



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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.

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