

# Job Market Intelligence: Report on the Growth of Cybersecurity Jobs

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# Market Overview: Cybersecurity Jobs

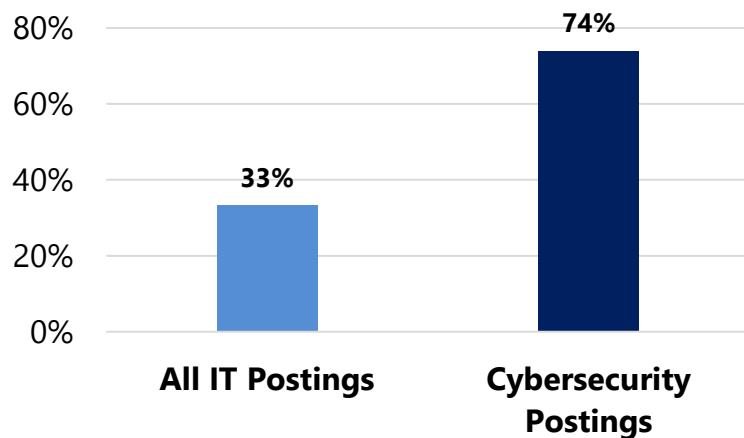
## The Market for Cybersecurity Jobs Is Large and Growing

- In 2013, there were 209,749 postings for cybersecurity-related jobs nationally. **Cybersecurity jobs account for nearly 10% of all IT jobs.**
- Cybersecurity postings have **grown 74%** from 2007-2013. This growth rate is over 2x faster than all IT jobs.

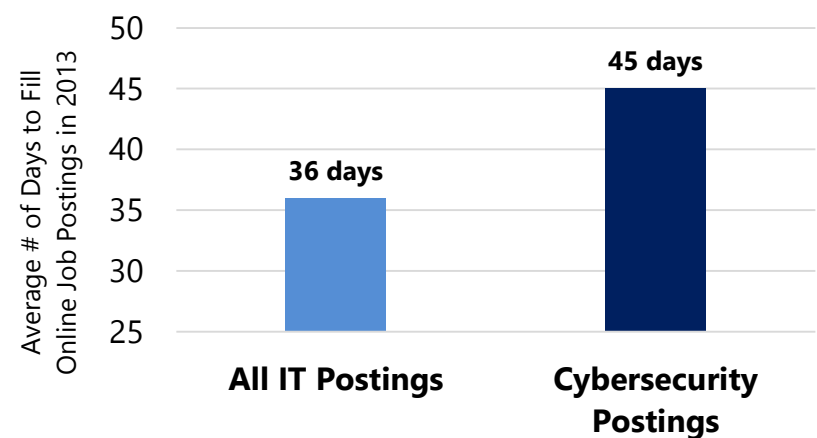
## Demand for Cybersecurity Talent Is Outstripping Supply

- Cybersecurity job postings took **24% longer to fill than all IT job postings and 36% longer than all job postings.**
- The demand for cybersecurity talent appears to be outstripping supply. In the US, employers posted 50,000 jobs requesting CISSP, recruiting from a pool of only 60,000 CISSP holders.

**Growth in Job Postings (2007-2013)**



**Posting Duration (2013)**

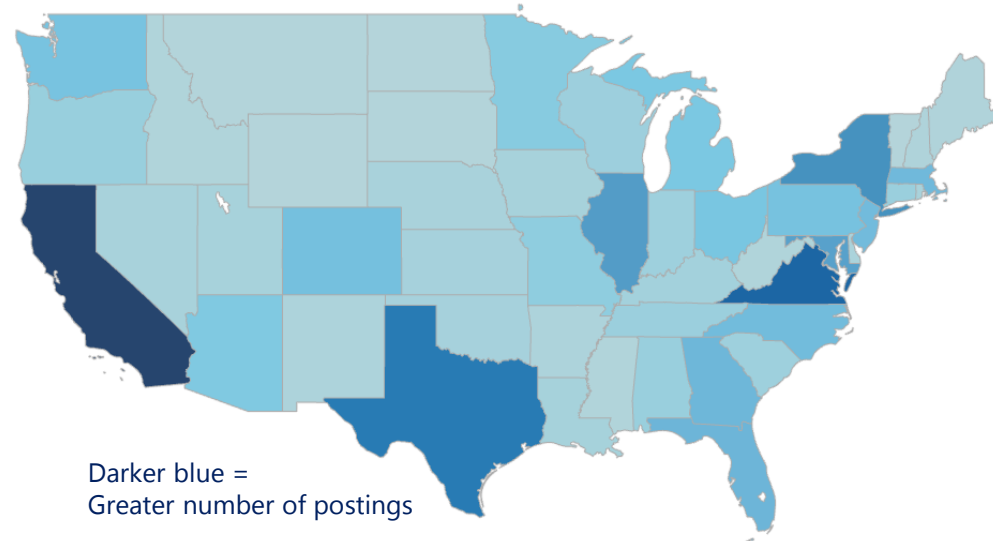


# Cybersecurity Job Postings by State

## Top States by Total Postings\*

	State	Total Postings	Postings/10,000 Residents	% Growth (2007-2013)
1	California	27,084	7.1	64%
2	Virginia	20,507	25.1	53%
3	Texas	16,376	6.3	97%
4	New York	12,405	6.3	59%
5	Illinois	11,136	8.6	116%
6	Maryland	10,627	18.1	94%
7	Florida	7,923	4.1	46%
8	Georgia	7,539	7.6	214%
9	Massachusetts	7,107	10.7	76%
10	New Jersey	6,814	7.7	12%
11	North Carolina	6,676	6.8	129%
12	Colorado	6,039	11.6	158%
13	Pennsylvania	5,630	4.4	22%
14	Washington	5,444	7.9	76%
15	Ohio	5,086	4.4	34%

## Cybersecurity Job Postings in 2013 By State



\*See Appendix 1 for state-level data tables on total postings and postings growth.

# Cybersecurity Job Postings by City

## Top Cities by Total Postings

	City (MSA)	Total Postings	% Growth (2007-2013)
1	Washington D.C.	23,457	35%
2	New York	15,632	38%
3	San Francisco/ San Jose	12,697	67%
4	Chicago	9,723	115%
5	Dallas	7,669	110%
6	Los Angeles	7,123	38%
7	Boston	6,336	87%
8	Atlanta	5,883	204%
9	Baltimore	4,514	116%
10	Seattle	4,470	63%









## Top Cities by Growth

	City (MSA)	Total Postings	% Growth (2007-2013)
1	Atlanta	5,883	204%
2	Denver	3,482	200%
3	Austin	1,979	172%
4	Charlotte	2,410	127%
5	Portland (OR)	1,981	119%
6	Baltimore	4,514	116%
7	Chicago	9,723	115%
8	Phoenix	2,885	114%
9	San Diego	3,665	112%
10	Dallas	7,669	110%

\*Top cities by growth were calculated by taking the top 25 cities by total postings, and ranking them by growth in job postigs

# Cybersecurity: Demand by Industry Sector

- Professional Services, Manufacturing, and Finance are the leading industries for cybersecurity professionals.
- The share of cybersecurity jobs coming from the Manufacturing & Defense, Public Administration, and Retail Trade industries is increasing over time compared to other industries.

Industry Sector	% of Cybersecurity Postings	Number of Cybersecurity Postings (2013)	2010-2013 Postings Growth
Professional Services	38%	80,446 	29%
Manufacturing & Defense*	14%	28,331 	16%
Finance and Insurance	12%	24,145 	89%
Information	8%	15,820 	36%
Health Care	6%	12,257 	73%
Public Administration	5%	11,204 	N/A**
Retail Trade	5%	10,203 	94%
Other	13%	27,384 	N/A**

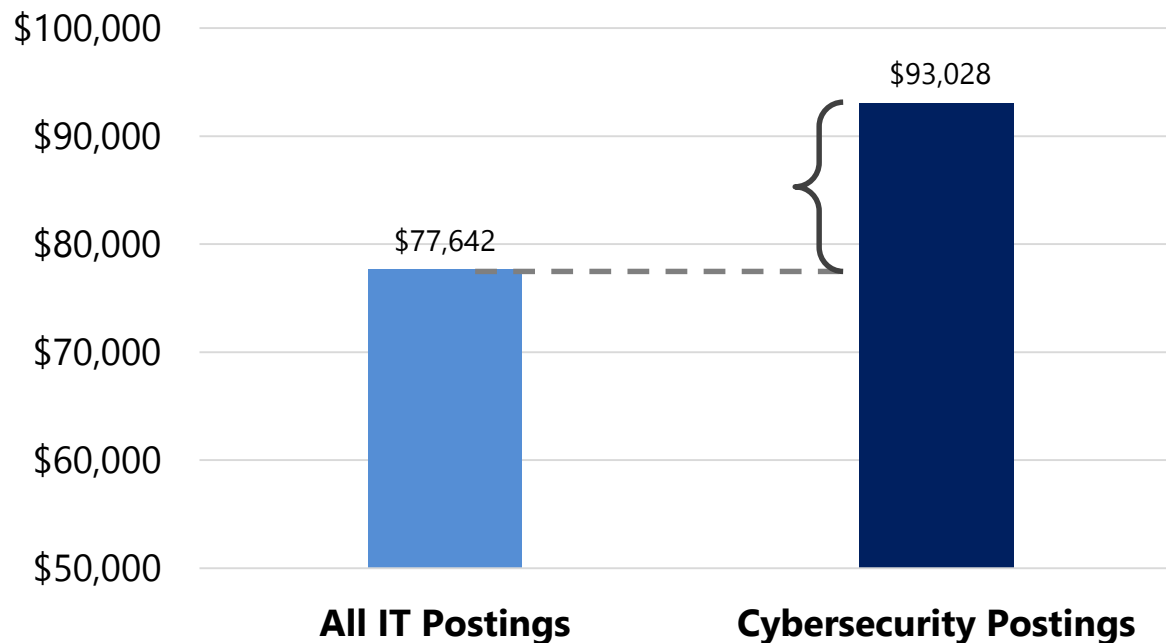
\*Manufacturing Sector includes services divisions of a number of defense contractors (e.g. Raytheon) and computer manufacturers (e.g. Hewlett Packard).

\*\* Industry growth rates are suppressed for the Public Administration and Other industry sectors because a significant portion of labor market demand in these industries exists offline.








# Cybersecurity Jobs Offer Increased Salaries

## Cybersecurity Jobs Pay a Premium

On average, cybersecurity salaries offer a premium of over \$15,000 over the salaries for IT jobs overall.











# Cybersecurity: Demand by Role

Title	% of Cybersecurity Postings	Number of Cybersecurity Postings (2013)
<b>Engineer</b> (e.g. Security Engineer, Information Assurance Engineer)	28%	40,898 
<b>Manager/Administrator</b> (e.g. Data Security Administrator, Information Security Manager)	19%	28,310 
<b>Analyst</b> (e.g. IT Security Analyst, Cyber Intelligence Analyst)	18%	26,219 
<b>Specialist/Technician</b> (e.g. IT Security Specialist, Infosec Technician)	9%	13,154 
<b>Auditor</b> (e.g. IT Auditor, IT Sarbanes-Oxley Auditor)	5%	7,307 
<b>Architect</b> (e.g. Security and Privacy Architect, Network Security Architect)	5%	6,670 
<b>Consultant</b> (e.g. Network Security Consultant, Infrastructure Security Consultant)	4%	6,121 

# Demand for Certifications

**Certification requirements are more common in cybersecurity roles than in IT generally.**

- 51% of all cybersecurity positions request at least one of the certifications listed below.
- 14% of all IT positions request a certification of any kind.

Certification*	% of Cybersecurity Postings	Number of Cybersecurity Postings (2013)
<b>CISSP</b> Certified Information System Security Professional	24%	49,522 
<b>CISA</b> Certified Information Systems Auditor	16%	33,290 
<b>Security+</b> Certified Information Security Manager	8%	17,019 
<b>CISM</b> Certified Information Security Manager	7%	15,083 
<b>GIAC Security Essentials</b>	3%	5,639 
<b>CIPP</b> Certified Information Privacy Professional	2%	4,168 
<b>SSCP</b> Systems Security Certified Practitioner	2%	4,039 
<b>GIAC GCIH</b> GIAC Certified Incident Handler	2%	3,163 

\*Certification requirements are not mutually exclusive

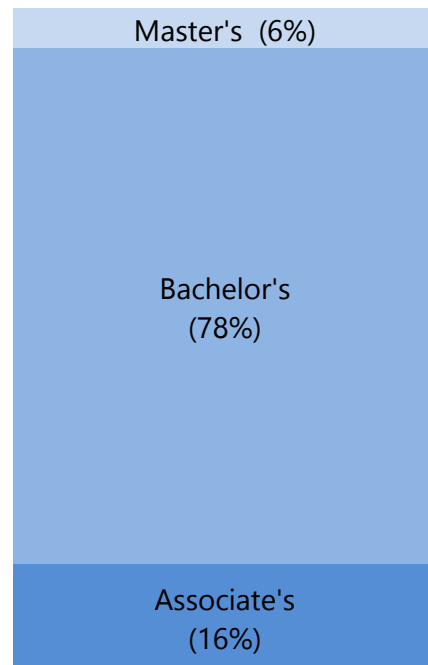


# Education and Experience Requirements

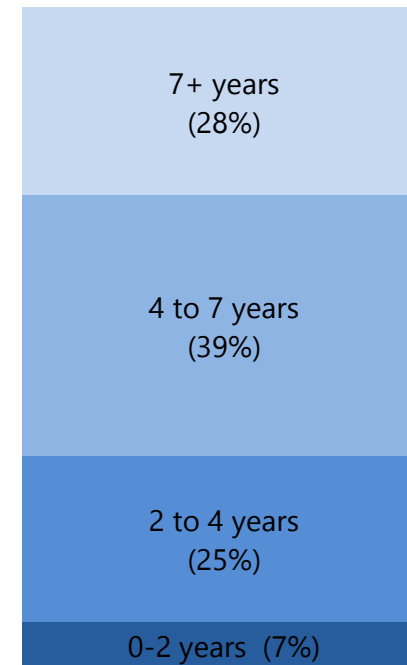
## Cybersecurity Jobs Require Significant Education and Experience

- 84% of cybersecurity postings specify at least a Bachelor's.
- 2/3 of cybersecurity postings require at least 4 years of experience.

### Minimum Education Level



### Minimum Experience



## Methodology

All jobs data in this report are drawn from Burning Glass's database of online job postings, which includes nearly 100M worldwide postings collected since 2007. Each day, Burning Glass visits over 32,000 online jobs sites to collect postings. Using advanced text analytics, over 70 data fields are extracted from each posting including job title, occupation, employer, industry, required skills and credentials and salary. Postings are then deduplicated and placed in a database for further analysis.

This report classifies cybersecurity jobs as those which have a cybersecurity-related title, require a cybersecurity certification or request cybersecurity specific skills. Cybersecurity related titles used to define the roles analyzed in this report include "network security", "information security", "information assurance", and "penetration tester". Cybersecurity skills include information assurance, cryptography, computer forensics, malware analysis, 800-53, and ArcSight. The cybersecurity related certifications are listed on Slide 7.

The data in this report use a broader definition of cybersecurity roles than Burning Glass's 2012 report examining the same topic. That report looked only at those roles with cybersecurity specific titles, whereas, this update includes jobs with cybersecurity titles, certifications or skills.

## About Burning Glass

Burning Glass's tools and data are playing a growing role in informing the global conversation on education and the workforce by providing researchers, policy makers, educators, and employers with detailed real-time awareness into skill gaps and labor market demand. Burning Glass's job seeker applications power several government workforce systems and have been shown to have substantive impact on reemployment outcomes and on labor market literacy.

With headquarters in Boston's historic Faneuil Hall, Burning Glass is proud to serve a client base that spans six continents, including education institutions, government workforce agencies, academic research centers, global recruitment and staffing agencies, major employers, and leading job boards.

## For More Information

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## Appendix 1: Top Cities Ranked By Total Postings

	City (MSA)	Total Postings	% Growth (2007-2013)
1	Washington, D.C.	23,457	35%
2	New York	15,632	38%
3	San Francisco/San Jose	12,697	67%
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5	Dallas	7,669	110%
6	Los Angeles	7,123	38%
7	Boston	6,336	87%
8	Atlanta	5,883	204%
9	Baltimore	4,514	116%
10	Seattle	4,470	63%
11	Philadelphia	4,032	-4%
12	San Diego	3,665	112%
13	Houston	3,648	67%

	City (MSA)	Total Postings	% Growth (2007-2013)
14	Denver	3,482	200%
15	Detroit	3,093	84%
16	Minneapolis	2,929	42%
17	Phoenix	2,885	114%
18	St. Louis	2,506	82%
19	Miami	2,496	29%
20	Charlotte	2,410	127%
21	Virginia Beach	2,335	74%
22	Portland (OR)	1,981	119%
23	Austin	1,979	172%
24	Tampa	1,932	58%
25	San Antonio	1,841	68%

## Appendix 2: State-Level Data

	State	Total Postings	Postings/10,000 Residents
1	California	27,084	7.1
2	Virginia	20,507	25.1
3	Texas	16,376	6.3
4	New York	12,405	6.3
5	Illinois	11,136	8.6
6	Maryland	10,627	18.1
7	Florida	7,923	4.1
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9	Massachusetts	7,107	10.7
10	New Jersey	6,814	7.7
11	North Carolina	6,676	6.8
12	Colorado	6,039	11.6
13	Pennsylvania	5,630	4.4
14	Washington	5,444	7.9
15	Ohio	5,086	4.4
16	Michigan	4,691	4.7
17	Arizona	4,252	6.5
18	Minnesota	3,718	6.9
19	Missouri	3,079	5.1
20	Oregon	2,349	6.0

	State	Total Postings	Postings/10,000 Residents
21	Alabama	2,266	4.7
22	Connecticut	2,234	6.2
23	Tennessee	2,134	3.3
24	Wisconsin	1,991	3.5
25	Indiana	1,916	2.9
26	South Carolina	1,846	3.9
27	Kentucky	1,451	3.3
28	Kansas	1,261	4.4
29	Oklahoma	1,253	3.3
30	Louisiana	1,229	2.7
31	Utah	1,202	4.2
32	Iowa	1,182	3.8
33	Hawaii	1,177	8.5
34	Nevada	1,103	4.0
35	Rhode Island	1,053	10.0
36	Nebraska	1,008	5.4
37	Delaware	836	9.1
38	New Mexico	703	3.4
39	Arkansas	679	2.3
40	New Hampshire	532	4.0

	State	Total Postings	Postings/10,000 Residents
41	Maine	489	3.7
42	West Virginia	475	2.6
43	Idaho	434	2.7
44	Alaska	402	5.5
45	Mississippi	399	1.3
46	South Dakota	234	2.8
47	Montana	199	2.0
48	North Dakota	186	2.7
49	Vermont	141	2.3
50	Wyoming	109	1.9