

JANUARY 2016

VOLUME 38



THE NAVIGATOR

One Million Cybersecurity Job Openings In 2016 — Source: Forbes.com

If you are thinking about a career change in 2016, then you might want to have a look at the burgeoning cybersecurity market which is expected to grow from \$75 billion in 2015 to \$170 billion by 2020.

A knack for cat and mouse play may indicate that you have an aptitude for cybersecurity. It is a field where the good guys — cybersecurity professionals — are pitted against the bad guys — cybercriminals a.k.a. hackers. Assuming you'd want to be a good guy — a career can mean a six-figure salary, job security, and the potential for upward mobility.

More than 209,000 cybersecurity jobs in the U.S. are unfilled, and postings are up 74% over the past five years, according to a 2015 analysis of numbers from the Bureau of Labor Statistics by Peninsula Press, a project of the Stanford University Journalism Program.

A report from Cisco puts the global figure at one million cybersecurity job openings. Demand is expected to rise to 6 million globally by 2019, with a projected shortfall of 1.5 million, says Michael Brown, CEO at Symantec, the world's largest security software vendor.

If you are already in the tech field, then crossing over to security can mean a bump in pay. Cybersecurity workers can command an average salary premium of nearly \$6,500 per year, or 9% more than other IT workers, according to the Job Market Intelligence: Cybersecurity Jobs 2015 report published by Burning Glass Technologies.

For newbies to the tech field who are contemplating a career in cybersecurity, they will often start out as information security analysts. U.S. News and World Report ranked a career in information security analysis eighth on its list of the 100 best jobs for 2015. They state the profession is growing at a rate of 36.5% through 2022. Many information security analysts earn a bachelor's degree in computer science, programming or engineering.

The most recent median pay for an information security analyst is \$88,890 per year, according to the Bureau of Labor Statistics, which says the typical entry level education is a Bachelor's degree. The lowest 10% earned less than \$50,300, and the highest 10% earned more than \$140,460. If you don't have a college degree — don't write off a career in cybersecurity.

With a huge shortage of qualified cybersecurity talent, companies and government agencies are aggressively trying to fill their openings. If you are lacking a college education, but have a leg up in cyber training, then you can still nab a job. Heimdal Security posted a blog listing 50 cybersecurity online courses you should know about — and several of the courses are for beginners.

Check it out: <https://heimdalsecurity.com/blog/50-cyber-security-online-courses-you-should-know-about/>

TCM has been awarded a major subcontract award supporting the Department of Homeland Security... As a teaming partner to one of the largest pure-play IT services providers serving the US government sector, TCM has been awarded a contract to continue providing Managed Services for the DC-1 Stennis Data Center. The Managed Services effort includes the operation and maintenance (O&M) as well as support for current and future workload migrations into DC-1. Contracted efforts includes providing 24X7 on-site support for the data center production environment and support for development, test and stage environments. The scope includes O&M services, hardware and software, network and security infrastructure, applications support, private cloud based services, program and project management and coordination in support of the Level 1 and 2 Managed Services. Period of performance starts on January 1, 2016 and has option periods through June 30, 2020.

TCM is excited to begin a partnership with a major Aerospace and Defense company to support their Infrastructure and Application based programs nationwide... TCM signed an agreement in late Q4 (2015) and is already providing resources in Q1 to help drive several key growth initiatives. The skill sets of our onsite resources are comprised of Cyber-Security, Data Center and Application Development technologies. We look forward to our new partnership in 2016!

TCM has been awarded an Information Security project supporting a large state Medicaid Management Information System implementation... TCM has been awarded a contract to provide Healthcare Security Architect resources for a leading state government healthcare systems integrator supporting one of the country's largest MMIS implementations. The Security Architects will focus on the timely delivery of project scope as it relates to the Security, Privacy and Confidentiality Plan (SPCP) and ensuring the MMIS platform security audit and risk assessment is completed on time and that policies and procedures are in place.



10 Hottest Healthcare IT Developer and Programming Skills — Rich Hein, CIO Magazine

A convergence of technology and legislative mandates still make healthcare one of the hottest areas within IT. Here's a look at the skills most in demand and where the jobs are.

According to the U.S. Bureau of Labor Statistics, the healthcare industry is leading the market in jobs creation. This shouldn't be surprising when you consider all that's going on within healthcare and the technology needed to support it. So what type of programming and developer skills are healthcare employers looking for?

CIO.com worked with Indeed.com, a job aggregation website that reports 1.5 billion job searches per month, to find out where the jobs are, who's looking to hire and what developer and programming skills are hot within this growing job market.

Let's begin with where the most healthcare IT jobs are within the U.S. (top 10)

- | | | | |
|-------------------|----------------------|---------------------|-------------------|
| 1) Boston, MA | 4) Chicago, IL | 7) Atlanta, GA | 10) Nashville, TN |
| 2) Washington, DC | 5) Dallas, TX | 8) Philadelphia, PA | |
| 3) New York, NY | 6) San Francisco, CA | 9) Austin TX | |

Skill Most in Demand and how they are being used within healthcare...

SQL

One of the most useful healthcare IT skills, SQL enables developers to insert query, update and delete data, as well as create and modify schema creation and data access control.

Java

In the healthcare industry, Java is popular for the creation of small to large embedded devices, and is often used for the development of remote patient monitoring applications and diverse and robust sensors.

HTML

A standard Web browser, whether it's Internet Explorer, Chrome, Firefox, Opera or the mobile Dolphin browser, reads HTML-based documents and converts them into visible or audible Web pages by reading the HTML tags to interpret and display the contents of the page. By creating apps using HTML5, healthcare workers are able to access the same data regardless of the Internet-connected device they are using.

JavaScript

JavaScript has evolved into a prototype-based scripting language that, along with HTML5 and CSS3, is used for game development and full-fledged healthcare application development.

XML

The use of standards is pivotal in providing healthcare providers with the capability to interoperate and share patient records more effectively. XML, the Extensible Markup Language, is an open standard markup language which is used to define a set of rules for encoding documents in a human-readable and machine-readable format. It is often used for the representation of arbitrary data structures and emphasizes simplicity, generality and usability. "XML is becoming more widely used in interfacing between systems, providing a standard architecture," industry expert.

C#

The C# programming language is a multi-paradigm language that involves imperative, generic, declarative, procedural, functional, class-based, object-oriented and component-oriented programming disciplines that provide developers with the functionality needed to create sophisticated applications for the healthcare industry, including Electronic Medical Records (EMR) Systems, Laboratory Information Management Systems (LIMS, LIS), EMR Alerting Systems and more.

C++

C++ is still one of the most popular programming languages, and is used as an efficient compiler for native code. It's used for system software, device drivers, high-performance client-server software and among other uses in the healthcare industry, it's used to provide the internal functionality of medical imaging analysis devices. "C++, C and C# are still all used in back-end programming of HIS systems.

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Interview questions to throw you off guard

Ryan Francis - CIO.com (This story, "Interview questions to throw you off guard" was originally published by CSO).

Sure there are those boilerplate questions such as do you work well with others or what are your strengths and weaknesses, but there are a few questions that interviewers ask that they hope will set you apart from the others.

Jeff Schilling, CSO at managed security provider Armor, likes to ask prospective candidates about their home network. "I like to get a sense that folks who are watching our cybersecurity tools have a love for tinkering around or have their own lab and treat cybersecurity as their passion and hobby, not just a job."

He said the worst responses are "I am not sure" or "that is not really important to me." But the best response he ever got was when the interviewee leaned back in his chair with a guilty look and asked: "Why do you want to know." Turns out this prospect had a very elaborate home network with gaming, Linux labs and public cloud honey pot collecting. "I really think he thought he was in trouble," Schilling said.

Rick Howard, CSO at Palo Alto Networks, tries to allow the interviewee to get comfortable with a few questions trying to get to know the candidate. Near the end of the interview he throws the curve ball by asking similar to Schilling what their home network is like.

"That may seem strange, but in the cybersecurity field, if s/he is not running at least one Linux box at home that s/he built alone, s/he does not have the intellectual curiosity and technical competence to be on my team," Howard said. "The people that work for me have to solve problems for themselves in a highly technical arena."

He said it is not that they have to know Linux, but they have to be able to solve technical challenges on their own. Building a Linux box from scratch is a great demonstration that you can handle yourself.

"I would say in general, if you fancy yourself to be a cybersecurity expert or if you are just getting into the field, if you have not built some kind of Linux box on your own just because you think it is cool, then you should reconsider your career field," Howard said.

Geoff Webb, vice president of solution strategy for NetIQ, the security portfolio of Micro Focus, wants to find out if the candidate has a macro view of the security industry. "The InfoSec world is moving extremely quickly and one of the biggest mistakes we make as an industry is to fail to adapt to the profound changes we are seeing – whether in the type of attack facing organizations or the impact of new technologies," he said. He wants to know if the candidate has the wherewithal to know what mistakes were made in the past so not to repeat them in the future.

"How do they characterize the changes that have occurred in the last couple of years, and what major changes are on the way?" he added. Then there is the interviewer who tries to catch you off guard. Ryan O'Leary, senior director of the Threat Research Center at WhiteHat Security, asks a brain teaser that forces the applicant to look at a problem from a different angle.

"A security engineer needs to look at something, be given how it should work and then figure out how to break it. It's a skill that's difficult to teach and the primary trait we look for in applicants," he said.

According to a recent survey, the largest expected gains in the number of jobs available are in tech, where starting salaries for newly hired IT workers are forecast to climb 5.3%. So it goes without saying that these job interviews are extremely important.

Joey Peloquin, senior manager, Threat & Vulnerability Management at Citrix, sees tons of resumes and often asks candidates what sets them apart from the rest of the pack. "It's an opportunity to evaluate a number of skills and characteristics with a single question: communication, depth and breadth of knowledge, confidence, ego, and so on.

Continued on back...

10 Hottest Healthcare IT Developer and Programming Skills *(continued)*

ASP.NET

ASP.NET is used within the healthcare industry for the creation and implementation of Web-based Software-as-a-Services (SaaS) application suites, electronic payment processing systems, healthcare data management systems and more.

PHP

A Web server that has the PHP processor module installed interprets the PHP code that is embedded in an HTML document, but it can also be used in standalone graphical applications or even through a command-line interface. It is still often used in the healthcare industry, for example, in the instance of Mindfire Solutions, to create a Web-based Secure Electronic Health Record management application.

C

It's a general purpose programming language that provides constructs that are able to efficiently map to normal machine instructions and is therefore often used in legacy applications that were previously developed using assembly language, especially system software such as that of the Unix operating system. Many healthcare institutions still rely on computers that are running Unix, and, for that reason, C programming continues to be a vital skill within the industry.

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\$1000 Direct Hire/Permanent Bonus - You are eligible for our \$1000 Referral Bonus if you are the sponsor of a full-time placement candidate (payment will be issued when the placement has successfully completed the guarantee period and payment of the full net fee has been received).

\$250-\$500 Temporary Bonus - You are eligible for our \$250-\$500 Referral Bonus if you are the sponsor of a new TCM consultant (W2 or corp-to-corp). A referral bonus of \$250 will be paid upon completion of the first 320 hours of work by the new consultant, and a second referral bonus of \$250 will be paid upon completion of 640 hours of work.

Our experience has taught us that great candidates often know other great candidates, so be sure to take advantage of our referral bonus program. There is no limit to the number of employees you may refer!

Please contact your Recruiter or Account Executive for further details.



Interview questions to throw you off guard... *(continued)*

They even the playing field and suggested possible deficiencies provide a glimpse into their demeanor under pressure."

He added that the leading security professionals are forged through a rapid iteration process of failures and successes. One of the most important questions to ask to build on the above is, "What are the last three significant projects you worked on in detail and how are you a better security professional because of them?"

Leigh Fransen, recruiting manager at Beyond Trust, goes with the tried-and-true method of first finding out if the candidate has done their homework in researching the company. "The candidate's answer to this simple question will give us insight into his/her industry experience, ability to come prepared and do research (which we expect they will do), and will also open a discussion about the culture at BeyondTrust and the dominance of our products in the market."

Andrew Wertkin, CTO at BlueCat Networks, might ask candidates to describe the level of risk that currently exists in his company's environment? He would look for the prospective employee to take him through the steps to identify risks, how you would implement the full cycle of your project, and describe the operational impact of the solution you are proposing.

Nice Job! An email from a client to a TCM Account Executive about our **Onboarding Department**, "I just got off the phone with one of our consultants, who is working for us at a client in FL. He was calling to update me on his status with TCM moving forward and that led to a discussion on his time working here. This consultant had nothing but positive comments about TCM in general but specifically pointed out the ease of the onboarding process and how streamlined and professional the process was. He thought for sure the process was handled by an outside company specializing in onboarding, which I explained was not the case that it is a dedicated team internal to TCM. His comment back was "you should contract them to other companies, they were that good"!

Don't Forget!! TCM offers a special referral bonus program for the referral of **NEW Client Hiring Managers!** If you provide the name and contact information of a hiring manager that TCM hasn't worked with and TCM places a consultant under that manager, you may be eligible for the Referral Bonus! Bonus prizes range from an iPad Mini, iPad, iPhone 6 or iPhone 6+! Referral Bonus details can be found on our website at: <http://jobs.itstaffing.com/st/Referrals/THECA002K/560>

THE NAVIGATOR is published Quarterly by The Computer Merchant, Ltd.

Editor/Design & Layout: Carol Corsaro

The material in this publication is subject to change without notice and is informal in nature.

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