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# Certifications and Your Career

Master New Skills and Set Yourself Up for Success

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As the COVID-19 pandemic ebbs and flows, the demand for cybersecurity professionals continues to be strong.

You hear or read about it all too frequently. Another cyberattack has taken down vital systems, disrupting and sometimes disabling the work of hospitals, banks, and other businesses worldwide. Billions of dollars are lost every year repairing systems hit by cyberattacks, and they aren't showing signs of slowing down.

Worldwide, they are increasing in frequency and severity. As technology becomes more and more intertwined with our day-to-day lives, the need for experienced cybersecurity professionals continues to grow. Cloud technology is becoming ubiquitous, and we can't live without our mobile or smart devices. Even our cars use computers to function.

According to the (ISC)<sup>2</sup> 2021 Cybersecurity Workforce Study, the worldwide gap between open positions and the availability of experienced cybersecurity professionals is over 2.72 million.<sup>1</sup> This fast-paced field is perfect for anyone who loves a challenge, the thrill of problem-solving, and thrives on learning. Hiring skilled cybersecurity professionals is no longer a last-minute "oh wow, what just happened?" Companies worldwide recognize the value of professionals with the skills, knowledge, and expertise to identify, analyze, and mitigate threats for their businesses.

Even though more people are entering the cybersecurity workforce, organizations still need additional cybersecurity professionals to defend their critical assets. There are plenty of opportunities for people to:

- Start a new career
- Develop new skills
- Take on more responsibility
- Open the door for entry-level personnel
- Elevate your career
- Grow your personal wealth

A career in cybersecurity is an exciting field characterized by day-to-day responsibilities such as:

- Deciphering rapidly changing technology
- Protecting new applications
- Identifying vulnerabilities and threats
- Mitigating threats and attacks

Staying current through technical certifications helps you master and validate new skills and knowledge in the latest technology. This white paper provides some of the findings from the Pearson VUE Value of IT Certification survey and the (ISC)<sup>2</sup> 2021 Cybersecurity Workforce Study.

## Cybersecurity Professional Opportunities

The (ISC)<sup>2</sup> 2021 Cybersecurity Workforce Study states that the global cybersecurity workforce needs to grow 65% to effectively defend an organization's critical assets from a cyber criminal's bad intentions.<sup>2</sup> Sparked by rapid change, integration with smart devices, and new technology and applications means that you can confidently look forward to developing your career in this exciting, ever-changing field.

The (ISC)<sup>2</sup> 2021 Cybersecurity Workforce Study identified the areas needing people with cybersecurity expertise. These include:

- Security awareness
- Risk assessment
- Security administration
- Network monitoring
- Incident investigation and response
- Intrusion detection
- Cloud computing security
- Security engineering

According to data collected by the Bureau of Labor Statistics (BLS), "...the demand for cybersecurity jobs such as information security analysts will grow by as much as 31 percent over the next ten years."

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1. (ISC)<sup>2</sup> 2021 Cybersecurity Workforce Study, (ISC)<sup>2</sup>, October 26, 2021, <https://www.isc2.org/~/media/ISC2/Research/2021/ISC2-Cybersecurity-Workforce-Study-2021.ashx>.

2. Ibid.

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## Certifications Take You from Entry-Level to Senior Professionals<sup>3</sup>

While there is no substitute for a traditional degree, certifications and experience play a major role in landing a job within the cybersecurity field. The path to achievement starts with a plan. And confidence comes from knowing you're ready for what's next.

The top five anticipated areas of investment in professional development highlight a blend of technical skills, such as artificial intelligence/machine learning (AI/ML) and threat intelligence, along with a mix of complementary skills (including risk analysis, security governance, and compliance). With continued emphasis on remote work, cloud security sits firmly as the top priority for cybersecurity professionals' skills development in the next two years, named by 40% of respondents.

The top five areas for skills development are:

- Risk assessment, analysis and management (26%)
- Artificial intelligence/machine learning (25%)
- Governance, risk management and compliance (GRC) (24%)
- Threat intelligence analysis (22%)

Respondents identified their roles in concrete ways such as:

- Securely Provision (18%)
- Protect and Defend (16%)
- Operate and Maintain (14%)

Typical cybersecurity professional titles include:

- Security Administrator
- Security Analyst
- Security Architect
- Security Engineer
- IT Manager
- IT Director
- IT Security Manager
- IT Specialist
- Chief Information Security Officer (CISO) or Chief Information Officer (CIO)

Whether you are just starting out as an entry-level security professional such as a security analyst working in a security operations center (SOC), or you've already achieved a level of seniority, getting certifications can help strengthen your career goals.

## Top Reasons Why Certifications Matter<sup>4</sup>

Obtaining IT certifications is one way to get the necessary skills, enhance job performance, and keep abreast of evolving technologies. Pursuing certification takes commitment to your learning journey. As new technology comes out, cybercriminals take advantage of delays in practitioners acquiring the new knowledge. Many explained that upskilling was a priority because they needed specific skills to perform at work, or they felt it was necessary in order to keep abreast of evolving technologies. And it's not just potential hackers. The increased reliance on remote technology due to the COVID-19 pandemic created a sense of urgency for an additional 30% of candidates to pursue IT skills through certification:

- 77% of respondents are satisfied or extremely satisfied with their jobs.
- 73% of respondents cited obtaining particular skills, knowledge, or competencies.
- 56% of candidates used IT credentials to update and strengthen their résumés.
- 56% of candidates who earned IT certifications were promoted in their current roles.

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3. 2021 Value of IT Certification Report, Pearson VUE, May 25, 2021, <https://home.pearsonvue.com/voc/2021-report>.

4. Ibid.

## Job Satisfaction Ranks Highest on the List of Benefits<sup>5</sup>

One thing seems to be for certain, most practitioners employed in cybersecurity roles have consistently expressed very high levels of job satisfaction over the last four years and reported sharply higher satisfaction in the last two. In 2021, 77% of respondents reported that they are satisfied or extremely satisfied with their jobs, the highest satisfaction metric ever reported by Pearson VUE.

## Obtain New Skills<sup>6</sup>

Per Pearson VUE, 73% of their respondents cited obtaining particular skills, knowledge, or competencies as their main reason for earning an IT certification. Many explained that upskilling was a priority because they needed specific skills to perform at work, or that they felt it was necessary in order to keep abreast of evolving technologies.

## Strengthen Resumes<sup>7</sup>

According to the Pearson VUE, “The second-most important motivation respondents gave was to enhance their professional profiles. More than half (56%) believed that adding IT credentials updated and strengthened the impact of their résumés.”

## Promotions<sup>8</sup>

“Another 56% of candidates earned IT certifications to increase their chances of advancing and being promoted in their current roles, by acquiring new skills and knowledge.”

**Table 1: Pearson VUE Respondents on What Prompted Them to Pursue IT Certification**

Obtain skills, knowledge, or competence	72.5%
Enhance professional profile and résumé	56.8%
Advance or be promoted in my current job	56.2%
Obtain a specific IT role	32.4%
Make a job change	26.2%
Fulfill a work or school requirement	19.7%
Find work (I was/am under or unemployed.)	13.4%
Supplement my application for program or college admittance	5.6%

## IT Credentialing Is a Lifelong Pursuit<sup>9</sup>

Although most candidates don’t consider IT certification until after starting their careers, the number of certifications achieved accumulates over time. In the 2021 Pearson VUE Value of IT Certification report, the survey data revealed that 28% of respondents were working toward their first certification. The average number of certifications held by candidates under 24 years old is four, while those over 55 years old typically have 10 certifications.

There is a higher proportion of first-time certification seekers just starting their careers. People in their mid-career or senior-level positions had already earned multiple certifications. Fewer than 30% of candidates earned their first certification while still in school or before starting a job. More than half realized the need for technical certifications in the early years of their career. Certifications increased for people new to their careers in addition to experienced practitioners—confirming that the pursuit of new skills through certification is a lifelong one.

5. 2021 Value of IT Certification Report, Pearson VUE.

6. Ibid.

7. Ibid.

8. Ibid.

9. Ibid.

## Benefits for Certification Holders<sup>10</sup>

In addition to high job satisfaction, respondents set ambitious primary goals, with most reporting that they realized positive benefits from their certification(s), such as increased respect from peers. Seven out of 10 candidates met their goals for certification and would recommend certification to someone seeking to start or advance a career in IT.

Though earning new certifications is an accomplishment in and of itself, many survey respondents found that acquiring certifications delivered unexpected benefits. For example, approximately 56% got promotions in their current job. As a result, many attained:

- New jobs (36%)
- Pay raises (28%)
- Job promotions (21%)

## Grow Your Personal Wealth

**Fifty percent** of candidates received a pay increase of **between 6% to 20%**, significantly higher than the average 2020 salary increase of 2.5%.<sup>11</sup> Applying more in-depth skills and knowledge acquired through certifications allowed candidates to validate and demonstrate their expertise, and they often were rewarded with larger than average pay increases.

**Table 2: Pay Raises and Percentage of Recipients**

Amount of Pay Increase	Percentage of Recipients
50%+	7%
31–50%	9%
21–30%	13%
<b>11–20%</b>	<b>23%</b>
<b>6–10%</b>	<b>27%</b>
Less than 5%	22%

According to the report by Pearson VUE, the following pay raises were not uncommon among the respondents:<sup>12</sup> 55% of those completing their certifications earned pay increases within three months of earning their certification. Within six months, the number jumped to 77%. Those who earned IT certifications increased their chances of advancement in their current roles, and 86% plan to pursue additional certifications over the next 12 months.

## Compensation<sup>13</sup>

Market dynamics dictate that when supply is low, there is high demand—the perceived value is high. Demand for cybersecurity professionals has been increasing over the last several years. Highly regarded as necessary and critical to protecting businesses from financial and reputation damage, it's no surprise that cybersecurity professionals are well compensated, often reporting an average salary before taxes of US\$90,900—up from US\$83,000 among respondents in 2020. Thirty-one percent report a median annual salary of US\$100,000 or more.

There are also significant differences in the average salaries between participants who have earned at least one cybersecurity certification compared to those who have not achieved any certifications. Those who have earned at least one certification made US\$33,000 more in annual salary than those that held none.

10. 2021 Value of IT Certification Report, Pearson VUE.

11. Dan Flear, "Salary Trends 2020/2021: How has Covid-19 impacted on local salary awards?" ECA International, December 8, 2020, <https://www.eca-international.com/insights/articles/december-2020/salary-trends-2020-2021>.

12. 2021 Value of IT Certification Report, Pearson VUE.

13. Ibid.

## Employers and Employees Reap the Benefits of Certifications<sup>14</sup>

Many of the benefits that result from certifications favorably impact both the candidate and their place of employment. According to Global Knowledge's 2021 IT Skills and Salary Report, IT decision-makers experienced more value when their employees achieved certifications, ultimately impacting business profitability. Benefits such as increased quality of work, productivity, efficiency, and the employees' ability to mentor others, contributed to the overall health of the business. Employers acknowledged the following results from an employee's certification:

- 81% increased quality and value of work contributions
- 80% greater ability to mentor and support coworkers
- 77% increased ability to innovate and enhance work processes and outcomes
- 75% able to perform new tasks or fill roles of greater responsibility
- 72% increased efficiency (produce more in less time)
- 71% increased productivity (produce more overall)

In addition, employers estimated the return on investment (ROI) for each credentialed staff member to be about US\$10,000, and when employers see the value, they are more likely to pay for their practitioners' certifications.

## Intrinsic Benefits<sup>15</sup>

Aside from extrinsic benefits, candidates experienced many intrinsic benefits from certification, such as increased confidence in their abilities, greater determination to succeed, feeling more respected by coworkers, high levels of job satisfaction, and more autonomy at work. The Pearson VUE survey reported that candidates experienced the following:

- 91% increased confidence
- 84% greater determination to succeed professionally
- 76% increased respect from peers
- 76% greater job satisfaction
- 74% greater work autonomy and independence

The value of IT certifications cannot be understated. The rapid adoption of cloud and wireless networking technologies throughout the past year revealed the need for more nimble, skilled IT teams—especially as the number of cyberattacks increases worldwide.

According to the Pearson VUE report, respondents reported that maintaining their certifications was important. With 86% of them confident that they would recertify within the next 12 months.

**Table 3: Most Effective Exam Preparation Methods from Most to Least Effective (1–5)**

	Global Average	North America	Latin America	EMEA	India	Japan	G. China
Commercial Training Center	1.66	1.68	1.71	1.81	1.66	1.3	1.34
Employer	1.67	1.73	1.67	1.77	1.51	1.36	1.71
Academic Course	1.98	1.89	2.02	2.04	1.92	1.51	2.07
Purchased Self-Directed Materials	2.05	2.17	2.08	2.09	2.16	1.55	2.08
Textbooks or Subscriptions	2.45	2.6	2.4	2.37	2.56	1.69	2.57
Free Materials	2.05	2.3	1.94	1.99	1.96	1.82	2.24
Practice Tests	2.28	2.3	2.29	2.34	2.37	1.91	2.07
Practice Labs	2.5	2.7	2.5	2.4	2.46	2.1	2.43

14. 2021 IT Skills and Salary Report, Global Knowledge, November 10, 2021, <https://www.globalknowledge.com/us-en/content/salary-report/it-skills-and-salary-report/#gref>.

15. 2021 Value of IT Certification Report, Pearson VUE.

## Taking the Next Step—Preparation Methods<sup>16</sup>

Self-directed learning materials are commonly used when preparing for certification exams. Over half of the respondents in the survey accessed free materials, and an additional 32% paid for self-directed materials. About 25% of respondents attended training courses hosted by commercial centers or employers. Commercial training centers are considered the most effective means of preparation.

## Principle Technology Certification Focus Areas

Even though more people are entering the cybersecurity workforce, organizations find there is still a gap between growing risks and available cybersecurity professionals to protect their critical assets. Popular technology certification focus areas are cloud, networking, virtualization, and cybersecurity. As these technologies evolve, professionals who keep their certifications current are well-recognized for helping companies be more agile and secure.

Remote working, business transformation, and a more connected world are driving higher demand for employees who can validate and demonstrate the skills, knowledge, and expertise that result from acquiring certifications.

The Pearson VUE report findings indicate that individuals in the IT field see these trends as well, and

**Table 4: Specialties of Interest and Growth Forecast According to Pearson VUE**

Specialty	2021	2022 Forecast	2021–2022 Growth
Cybersecurity	73%	27%	366%
Cloud Computing (IaaS, PaaS, and SaaS)	28%	50%	78%
Networking and Wireless	15%	23%	60%
Virtualization	17%	28%	324%

they realize the value of certifications and are poised to meet both the challenge and the need. These long-term trends highlight that the relevance and value of certifications will continue to grow even stronger over time.

## Why Palo Alto Networks Certifications Matter to You

Cybersecurity professionals are in high demand, so be ready to experience the positive, career-enhancing benefits that result from getting certified, such as:

- Increasing responsibility and promotions
- Elevating professional standing
- Achieving optimal security outcomes

At Palo Alto Networks, we recognize that as your company's cyber defenders you are critical players in protecting the security landscape. Practitioners in the exciting field of cybersecurity usually feel valued and respected for the ability to protect your company and your customers from threats like the recent SolarWinds or Apache.Log4j attacks.

You've worked hard to master Palo Alto Networks' technology. Now demonstrate you have the know-how necessary to:

- Thwart bad actors
- Become the best cyber defender possible
- Provide your company with pivotal security recommendations

<sup>16</sup>. 2021 Value of IT Certification Report, Pearson VUE.

Validate the hard-earned knowledge, expertise, and skills you've acquired through comprehensive certifications to:

- Distinguish your expertise from others
- Increase peer respect
- Achieve higher job satisfaction

Be ready to experience the positive, career-enhancing benefits that result from getting certifications such as:

- Increased responsibility
- Elevated professional standing
- Helping your company achieve optimal security outcomes

Our cybersecurity certifications cover some exciting topics like network security, security operations centers, extended detection and response, cloud security, security at the edge, and endpoint security. We know that employees who pursue ongoing certifications are known to take on more responsibility and exhibit greater work quality, productivity, efficiency, and innovation towards providing optimal security outcomes.

In the Unit 42 Ransomware Threat Report, 1H 2021 Update<sup>17</sup> the most effective protection from ransomware occurs when all enterprise environments and devices are covered by:

- Endpoint security
- URL filtering or web protection
- Advanced threat prevention (unknown threats/sandboxing)
- Anti-phishing solutions

While these will not outright guarantee prevention, they will drastically reduce the risk of infection from common variants and provide stopgap measures, allowing one technology to offer a line of enforcement when another may not be effective.

From malware to identity theft, Palo Alto Networks certifications keep our cybersecurity professionals well-versed in the latest technology to protect your organization's security landscape from unwanted attacks.

Accelerate your career with Palo Alto Networks certifications and microcredentials.

**Table 5: Palo Alto Networks Certifications and Microcredentials**

Certification	Role	Product/Platform	Focus
<b>PC CET: Palo Alto Networks Certified Cybersecurity Entry-Level Technician</b>	Cybersecurity entry-level technician	Foundational cybersecurity technologies	• Validates your understanding of fundamental cybersecurity, network security, cloud security, and SOC security.
<b>PCCSE: Prisma Certified Cloud Security Engineer</b>	Customer success, DevOps, cloud support, professional services, cybersecurity architects, and security engineers	Prisma Cloud	• Validates that you can onboard, deploy and administer all aspects of Prisma Cloud, Prisma Cloud Enterprise, and Prisma Cloud Compute.
<b>PCNSA: Palo Alto Networks Certified Network Security Administrator</b>	Network security administrators	Next-Gen Firewall	• Validates your ability to operate Palo Alto Networks Next-Generation Firewalls to protect networks from cutting-edge cyberthreats.
<b>PCNSE: Palo Alto Networks Certified Network Security Engineer</b>	Network security engineers, system engineers, systems integrators, and support engineers	Next-Gen Firewall	• Validates that you can design, deploy, operate, manage, and troubleshoot Palo Alto Networks Next-Generation Firewalls.

<sup>17</sup> Ramarcus Baylor, Jeremy Brown, and John Martineau, "Extortion Payments Hit New Records as Ransomware Crisis Intensifies," Palo Alto Networks, August 9, 2021, <https://www.paloaltonetworks.com/blog/2021/08/ransomware-crisis/>.

**Table 5: Palo Alto Networks Certifications and Microcredentials (continued)**

Certification	Role	Product/Platform	Focus
<b>PCSAE: Palo Alto Networks Certified Security Automation Engineer</b>	System engineers, analysts, and administrators	Cortex XSOAR	<ul style="list-style-type: none"> <li>Validates your understanding of the Cortex XSOAR utility of out-of-the-box and custom playbooks and integrations.</li> <li>Demonstrates your ability to identify customer processes that can be automated through XSOAR and your ability to customize XSOAR to reduce mean time to resolution leveraging the rest of the security products.</li> <li>Shows that you can develop, analyze and administer Cortex XSOAR security orchestration, automation, and response platform with native threat intelligence management.</li> </ul>
<b>PCDRA: Palo Alto Networks Certified Detection and Remediation Analyst</b>	Security administrators, security analysts, security architects, security engineers and security operators	Cortex XDR	<ul style="list-style-type: none"> <li>Validates your foundational knowledge of industry-recognized cybersecurity and endpoint security concepts as well as cutting-edge advancements.</li> <li>Shows that you possess the in-depth skills and knowledge to develop playbooks, manage incidents, and identify customer processes that can be automated.</li> <li>Demonstrates the highest standard of deployment methodology and operational best practices for Cortex XDR.</li> </ul>
<b>PMRuA: Palo Alto Networks Microcredential Remote User Administrator</b>	<ul style="list-style-type: none"> <li><b>Administrators:</b> Security administrators</li> <li><b>Analysts:</b> Security, cyber and defense analysts</li> </ul>	Prisma SASE—the combination of Prisma Access and Prisma SD-WAN	<ul style="list-style-type: none"> <li>Validates your knowledge, skills and abilities for deploying Prisma SASE to provide customers secure access directly at the service edge.</li> <li>Demonstrates that you can deploy and manage Prisma Access to deploy and manage mobile users.</li> </ul>
<b>PMRnA: Palo Alto Networks Microcredential Remote Network Administrator</b>	<ul style="list-style-type: none"> <li><b>Associates:</b> Technical support and network security associates</li> <li><b>Engineers:</b> Network, security, system, consulting, implementation, hybrid, and customer support engineers</li> <li><b>Specialists:</b> Security operations, cyber defense, network operations, and infrastructure support specialists</li> </ul>		<ul style="list-style-type: none"> <li>Validates your comprehensive knowledge, skills and abilities required for deploying Prisma SASE and implementing SD-WAN for remote networks that provide customers secure access directly at the service edge.</li> </ul>

Get a jump on bad actors! [Register for Palo Alto Networks certifications.](#)

Additional resources can be found at [www.paloaltonetworks.com/services/education/certification](https://www.paloaltonetworks.com/services/education/certification).



3000 Tannery Way  
 Santa Clara, CA 95054  
 Main: +1.408.753.4000  
 Sales: +1.866.320.4788  
 Support: +1.866.898.9087  
[www.paloaltonetworks.com](https://www.paloaltonetworks.com)

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