BT Deepens Cybersecurity Team Knowledge with Official (ISC)² CISSP Training

Cybersecurity is at the heart of the communications industry given the nature of the sector. Nowhere is this more evident than with BT, one of the world's largest communications providers.

As part of its drive to meet the highest security standards, BT asks that its cybersecurity practitioners hold the (ISC)² CISSP certification as they progress and gain experience in their careers. Prior to completing the CISSP exam, BT expects people to have a minimum of five years experience across several security domains, and to be ready to step up into some of its more senior roles, e.g. CISO's, Security/Solution Architects, Advisory/Consultancy, senior roles in CyberSOC (security operations center), CTO etc.

Jonathan Kilgannon joined BT's Security team as a training specialist in 2017, with part of his role dedicated to assisting with certification-based training across the organization. CISSP certification is well-known as one of the most difficult qualifications to achieve and BT identified it as an accreditation that it wanted to invest in.

"Within BT, we see cybersecurity leaders and future leaders as the primary people being put forward to prepare for and take the CISSP exam, rather than it being a blanket requirement for, say, systems architects. It's often a decision based on where investing in CISSP certification will deliver the biggest benefit for the organization and the individual's career path," said Kilgannon.

BT delivers its CISSP training via a fully mentored and supported learning model across 14 weeks. This is followed by intensive 'hot house' training sessions, where BT brings in an (ISC)² Authorized Instructor to fully immerse candidates in the subject matter, with Official (ISC)² Training, before going on to tackle the certification exam itself. For BT, its preference for private, live courses is based on confidentiality and removing barriers to conversation. This model also continued during the COVID-19 pandemic, where BT was able to flex approach and run the private hot house virtually. "We find it's better as it enables people from different parts of the organization to meet and have interesting conversations. In particular, it allows them to speak more freely about work-related subjects than they could do if they were in a public forum. Sharing a classroom (virtual or in person) with individuals from outside of BT would create just such an obstacle to that knowledge sharing," Kilgannon said.

"Ideally, we think people should be sitting an exam within two to three weeks of completing the hot house session, that is when they will be best prepared and most focused on tackling and passing the exam," Kilgannon added. This was a challenge across a variety of professional qualifications but improving the success rate for those sitting for the CISSP was seen as particularly beneficial for the business given the increasing focus on cybersecurity in BT's everyday operations.

Raising the Bar

Kilgannon was tasked with raising the bar for success among CISSP candidates. A CISSP himself, having sat and passed the exam in 2012, Kilgannon has firsthand experience of the process, and of the knowledge and competency needed to achieve the certification. In conjunction with another CISSP and a CISSP hopeful, Kilgannon and his team mapped this understanding of the qualification to BT's current approach to improve the education delivery process.

Additionally, Kilgannon recognized that the previous education delivery model was insufficient as most candidates do not have previous exposure to all eight CISSP domains in current or past roles, so additional time is required to explain and reinforce them. He felt that the best way

to improve success was to incorporate a preparation stage before the hot house, so that when candidates entered the intensive training session, they would be aware of all domain aspects and would be better prepared to understand and absorb them.

"We have to be mindful that not everybody does everything that is covered by the CISSP certification in their day job. You cannot be an expert in all those domains just from carrying out your everyday role. Candidates need an opportunity to be introduced to the aspects of CISSP that sit outside their current role in a bit more of a gradual way," explained Kilgannon.

Based on the current Sybex (ISC)[2] CISSP Official Study Guide, the preparation stage is led by a different instructor (usually Kilgannon himself) than the one delivering the hot house session, so that candidates would benefit from two different teaching styles.

"The official (ISC)[2] content is produced to a very high standard and constantly refreshed. It gives us a great deal of confidence when teaching to know that the study guides and other learning resources are accurate and reliable," said Kilgannon.

The preparation phase also offers an element of professional mentoring not previously available to candidates, giving

them extra support and guidance through an intensive and challenging program. Kilgannon makes extensive use of Mentimeter, an online presentation and polling tool designed to not only make the preparation session more interactive, but also to continuously challenge candidates to demonstrate their understanding of the course material through the use of online quizzes.

"Using a mobile phone, candidates can participate in group quizzes wherever they are, allowing us to constantly challenge and measure their progress. This proved particularly useful during the COVID-19 pandemic when we could not bring any of the candidates together for a physical classroom session. Using Mentimeter, we could run recap presentation sessions and incorporate the quizzes, with real-time responses from the audience. Everyone gets involved and we can then discuss the results of the quiz. We revisit areas where the bulk of the group answered poorly without singling out individuals in front of the whole group," Kilgannon explained.

The preparation process ends with some mock exams, ensuring candidates have a grasp on all domain aspects before going into the intensive hot house course.

Measuring Success

With the preparation and hot house approach, candidates are effectively taught the material twice, in two different ways from two different voices. This strategy increases the chances and opportunity for candidates to understand and recall the knowledge being shared with them by overcoming the obstacle that not all candidates gel with one style of teaching and knowledge transfer. While the intensive hot house session is still key to BT's approach to education, offering insights and mentoring before the intensive condensed course has had a profound impact on the success rate.

"Success has improved significantly," said Kilgannon. "But doing so has required us to get two things right. Getting the training right is a big part of it, but so is getting the right candidates on to the course. Not everyone is right to take on a path to certification such as the CISSP, so ensuring the candidates are ready and have been on the right professional development path leading up to it is important too. We recommend that people have SSCP or equivalent before embarking on this learning."

Knowledge, commitment and dedication to the outcome are important as this approach demonstrates. The cohorts that went through BT's revised CISSP hot house
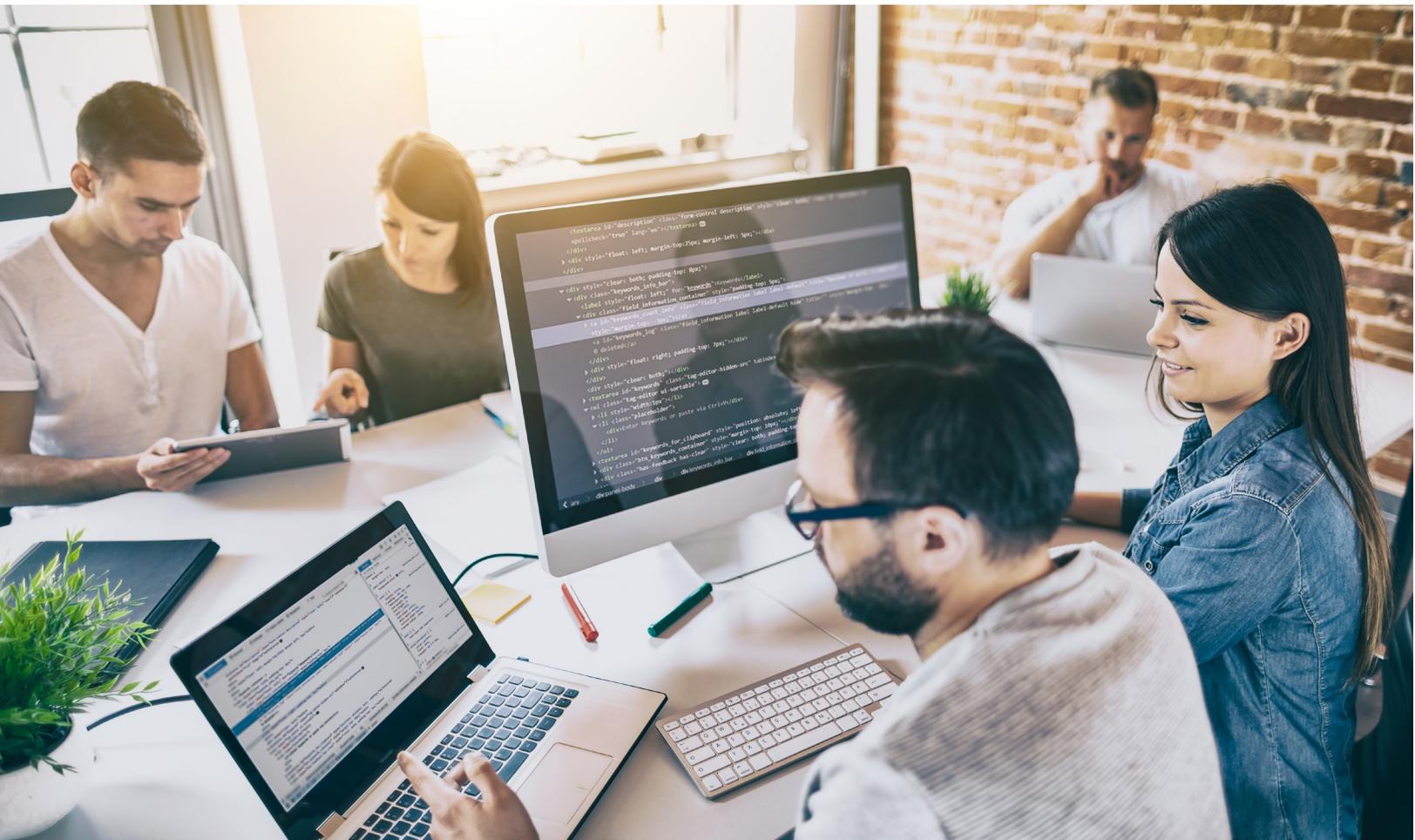
program have achieved an average 90% pass rate, up from around 50% before Kilgannon revised the program format. In total, five cohorts have been through the revised program, with each one seeing a stark improvement in pass rates over the previous format. A sixth cohort is planned for the second half of 2021. The hot house, while largely based in the UK, brings in cybersecurity practitioners from across BT's global footprint.

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"Over the last three cohorts that have gone through this process, only one person has not made it to the exam stage,"said Kilgannon.

For those who pass the exam and join (ISC)² as an Associate, the expectation is that these individuals will acquire the necessary industry experience to achieve (ISC)² membership and certification. CISSP holders are expected to maintain their certification through Continuing Professional Education (CPE), ensuring their skills stay sharp and they are continuing to advance their skills

and knowledge to keep up with the latest trends and best practices.

"For BT, investing in CISSP education and certification delivers a variety of benefits. It combines management and technical aspects into a well-rounded qualification. We have people in technical security roles that also need to develop their cybersecurity leadership skills. People inside our business recognize that colleagues that achieve CISSP certification are shown to have a particular mindset and aptitude for security. It's a recognized, respected and valued benchmark of skills and capability for our business. When people say to me that they are having improved cybersecurity-related conversations with customers, stakeholders and leaders in the business after completing CISSP, it's clear we are making a positive difference," said Kilgannon. "A mentee from my most recent cohort said 'Going through the process of CISSP removed my imposter syndrome, giving me the confidence to lead by example expressing my opinions on cybersecurity matters and the ability to speak up both internally and externally whether with CTO, sales or someone in a engineering role.'"

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Every organization has unique certification and training needs, and cookie-cutter solutions fall short of meeting them. That's why (ISC)² Training can be tailored to your organization's budget, schedule and unique cybersecurity requirements. Contact the (ISC)² team for a one-on-one consultation to develop a targeted cybersecurity training and certification plan for your team.

About (ISC)²

(ISC)² is an international nonprofit membership association focused on inspiring a safe and secure cyber world. Best known for the acclaimed Certified Information Systems Security Professional (CISSP®) certification, (ISC)² offers a portfolio of credentials that are part of a holistic, programmatic approach to security. Our association of candidates, associates, and members, nearly 330,000 strong, is made up of certified cyber, information, software and infrastructure security professionals who are making a difference and helping to advance the industry. Our vision is supported by our commitment to educate and reach the public through our charitable foundation – The Center for Cyber Safety and Education™.
For more information on (ISC)², visit www.isc2.org, follow us on Twitter, or connect with us on Facebook and LinkedIn.