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New Internship Models Help Close Skills Gap
According to a recent study by Cybersecurity Ventures, cybercrime will more than triple during the next five years. And the number of cybersecurity professionals employed to keep cybercrooks at bay will not come close to keeping pace with this threat. Steve Morgan, the analyst who authored the report, predicts there will be more than 3.5 million cybersecurity job openings by 2021, and this cybersecurity skills gap could cost businesses $6 trillion during the next six years.

How can companies possibly narrow such a cavernous talent gap in less than a decade?

The short answer is to start cultivating cybersecurity talent now. And at CompTIA, we believe one of the most important groups to target is what we call the “next generation of technologists,” the tweens and teens working their way through middle and high school today. Cultivating a new wave of talent from the ranks of young people is critical to the long-term health of the tech industry, and the U.S. economy as a whole, especially in what we term under-represented groups in tech, such as young women and minorities.

But organizations confronted with a cyber-siege today can’t afford to wait too long for tomorrow’s talent. They need accelerated methods for attracting young people to tech jobs in general, and cybersecurity work in particular. One powerful way to meet this challenge is rethinking the traditional high school internship model. Before delving into details, let’s establish a foundation of understanding.

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- **Project**—Work for the student/intern that is challenging and valuable to the sponsoring business, not generic tasks designed to keep kids busy and save companies labor costs.
- **Place**—A location for the student to use as a base for conducting work, typically a facility operated by the sponsoring company but, in today’s digital operating environment,

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A sense of progress toward marketable skills. The shape of these work/study arrangements will vary from school district to school district, but compensation must be tangible. Otherwise, the participant is a volunteer.

From the perspective of my organization, we don’t consider any programs labeled “internships” to be valid unless all parties—students, educational institutions, and sponsoring companies—take away value in the final analysis. And we believe all four of the attributes above must be present to generate mutually beneficial outcomes for all.

That’s where many schools get stuck today. Few institutions feel as though the resources to fulfill all 4 Ps are available in today’s hectic environment, from teachers on faculty or staff at sponsoring businesses. And when this overwhelmed mindset takes hold, usually it’s a showstopper for an internship program. Here are some ways this mentality stalls or stops internships these days in terms of the 4 Ps:

- **Project Ambivalence**—Teachers, corporate executives, and business managers who are pressed for time pose the question, “What could an intern do for a business that has actual value?” and then devote little time to finding an answer.

- **No Virtual Place to Hang an Intern’s Hat**—Businesses today operate in an increasingly mobile, virtual environment. Internship design must evolve to match this environment by supplying some type of collaboration platform between schools and sponsoring organizations, or programs fall by the wayside.

- **Too Few Personnel**—Digital transformation—at educational institutions and inside businesses—already consumes the attention of staff and strains available budgets. Supervising and mentoring is perceived as a long-term play that comes at too high a short-run cost.

- **Too Little Payment (Or None at All)**—Per CompTIA’s study “Business Relevance of IT in the SMB Market,” small to mid-size firms “account for the vast majority of the nation’s business entities and serve as a key driver of job growth and innovation.” In fact, in many school districts, SMBs are more plentiful than large corporations, providing the backbone of local economies. But the average SMB doesn’t feel comfortable shouldering all 4 Ps of an internship program. And in cash-strapped school districts, neither do school administrators.

Do these attitudes and constraints necessarily doom all internships? No. But if we don’t become more creative about internship design, an excellent means of nurturing talent could wither and die at a time when businesses need that method to thrive.

The solution to this dilemma is not as complicated as one may expect. Why not divide responsibility for the 4 Ps across more than one entity? Consider these four internship configurations as examples of better fits for today’s interns and companies:

- **Advocate Model**—School districts, community colleges and/or non-profit organizations like CompTIA can provide counsel to sponsoring companies about appropriate projects for interns. In some cases, these entities have programs offering templates and guide books.

- **Shared/Managed Model**—Not all employers can facilitate an internship at locations near schools, and some crowded schools can’t afford to devote space to these programs either. A shared/managed model allows for part of the internship to be handled virtually in cooperation with the employer’s remote work policy. One of the Ps—place—shifts into the mobile realm, with, perhaps, students working after school from home or local libraries, cafes, and coffee shops, places many students already go to do school work in off-hours.

- **Partner Model**—Some large corporations can’t supervise an intern on location. But they can coordinate with their local channel partners, who have available Personnel, to offer students internships. For example, a local IT services provider that supports a big company with Help Desk personnel could provide projects, places, and personnel, while its client corporation supplies some form of payment.

- **Aggregate Model**—SMBs often lack resources to supervise and compensate students and/or lack a large enough workload to keep an intern fully occupied. But SMBs can aggregate resources and projects with other small firms through advocate groups, as mentioned earlier, such as a school district or other community organization like a Chamber of Commerce. Payment is aggregated across participating businesses and may be subsidized by the advocate organization. In the same spirit, multiple schools in a district can feed students into internships programs across the region, perhaps even providing busing when necessary.

With enough coordination, one can imagine models in which more than one of the Ps is shifted to fit the needs of students, schools, and businesses. That’s great, because adjusting to shifting challenges, environments, and requirements is the best way to develop cybersecurity expertise and eventually close today’s expanding talent gap.