Security Assurance Competency Models

Megan Leonard

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When it comes to software assurance competency there are several different models. They have some similarities but differ in other ways. We are looking at SEI’s competency lifecycle roadmap, IT competency model, and the professional competency model.

The SEI competency lifecycle roadmap has four stages of its lifecycle starting with creating an assess plan which is outlining the different portions of the project. Then it has acquired which is taking actions to get the required knowledge or skills that are needed. Validate comes after which is looking at the affect of the actions taken. Then we have test readiness which is an evaluation to check against real world possibilities. The roadmap helps give an understanding of what a model will do and an early plan prior to the model creation.

The IT competency is shaped as a pyramid model that uses a tiered set of technical and not technical sections. It starts at the bottom layer with personal effectiveness competencies to look at a person’s skills, goals, and abilities. After that we have the academic competencies which is reading, mathematics, and other educational skills like critical thinking. Then we have workplace competencies which looks at the person’s skills within the workplace such as teamwork, planning, business, and problem-solving. Industry-wide technical competencies follow which looks at different IT areas such as risk management, databases, and software development. After is the industry-sector technical competencies which is skills that are specific to the sector within the industry, so it expands on the technical competencies that are needed within your area of work. Then it has management competencies and occupation specific requirements which looks at what is needed for that specific career. The SEI competency lifecycle roadmap gives a generic understanding of the steps needed during a project while the IT competency model looks at a person’s specific skills.

Professional competency model looks at different specialty areas such as vulnerability assessment, education, training, and software assurance. As the IT competency model looks over the person, the professional competency model looks at the different specialties that a person’s skills and knowledge could fall under.

Each model works together to help create the full picture. The roadmap makes a project plan that will be moving forward. The IT competency model helps sort people and find those who have the desired skills in areas that are needed for the project. Then the professional competency model helps by pointing out the necessary specialty area and the behavior indicators that are in that area.

Citation:

Competency lifecycle roadmap: Toward performance readiness. (n.d.-a). <https://resources.sei.cmu.edu/asset_files/TechnicalNote/2012_004_001_28155.pdf>

Information technology competency model - careeronestop. (n.d.-b). <https://www.careeronestop.org/competencymodel/competency-models/information-technology.aspx>

Mead, N. R., & Woody, C. C. (2017). *Cyber Security Engineering: A practical approach for systems and software assurance*. Addison-Wesley.