* The relevance of an ISO/IEC 15504 Information technology - Process Assessment in the context of the use of **Agile Methods**.

In this section we will be trying to analyze the relevancy of SPICE model to Agile practice. That being said there are several Agile methods in existence. While each has its own focuses and differences from each other, we are going to take the base Agile manifesto practice that was designed for “uncovering better ways of developing software” (Beck, et al., 2001), so only generic aspects and principles are taken into account.

To analyze we are going to take the five levels of Process Capability of SPICE model: Level 1 Preformed Process, Level 2 Managed Process, Level 3 Established Process, Level 4 Predictable Process and Level 5 Optimizing Process, and put them against Agile Methods to see if there are any possible synergies or drawbacks.

**Level 1:** In order for a process to reach Capability level 1, it requires to achieve its stated purpose. There are no specific techniques or methods required to achieve this and as such there are no problems with the Agile Methods in this regard. Agile focuses on Iterative releases for the most part and as such each iteration is aimed at achieving the goal of getting a functionality out which satisfies the Level 1 capability in SPICE.

**Level 2:** In order for a process to reach Capability level 2, it requires the specific processes to be planned and monitored closely and any associated work to be well established, controlled and maintained. Agile processes focus on adaptability and close communication with the customer which means they make more short-term plans and rapid response to any problems that arise. At first look it seems Agile and SPICE seem to be trying to achieve different ideals here. On a closer look it seems level 2 is more oriented at managing the work plans and adapting to changes much like Agile and allocating appropriate resources to the project when changes occur. This is much like Agile although SPICE seems to demand more control and future planning from the level 2 to be satisfied.

**Level 3:** In order for a process to reach Capability level 3, the process needs to be managed and implemented using a defined process that’s is capable of achieving the expected outcomes. Agile processes tend to have the characteristic of adaptability and flexibility in order to deal with incoming problems and changes. While SPICE demands a defined process, that process needs to also have the capability to adapt (i.e. be able to be tailored) according to the project changes. Without the ability to be tailored level 3 cannot be achieved. The agile Methods can achieve this level without any problems.

**Level 4:** In order for a process to reach Capability level 4, the process needs to use measurements to ensure that the performance of the process supports the achievement of process objectives in support of a defined business goals. Agile methods focus on delivering as many customer requirements as possible and use that as their measure of progress towards the end goal of the project. SPICE doesn’t specify what are the measures to be used to define the performance and hence the Agile methodology is not contradicting this level either.

**Level 5:** In order for a process to reach Capability level 5, the process needs to be continuously improved to meet the goals of the project accordingly, future or otherwise. Agile methodology uses this as its base requirement really as well as any organization that adopts any development methodology.

So, after taking a look at all the levels of Process Capability we can safely concur that SPICE can work with Agile methodologies. That being said it is not perfect without any problems and we shall outline one:

Assessor’s competence: Because of the nature of Agile Development an agile-specific assessors’ qualification scheme should be build-up and they should have hands on experience with agile. The assessors should be trained appropriately in order to let them ready to consider the nature of agile approaches and so be able to rate the processes objectively and in repeatable way. The assessors of agile processes should be aware of the characteristics and specifics of the agile methodologies and preferable have direct experience of software development in agile contexts.

* The **advantages** and **disadvantages** of using the ISO/IEC 15504 Information technology - Process Assessment model for process improvement.

In this section, we will be outlining the advantages and disadvantages of the SPICE model for process improvement.

**Advantages:**

One of the clear advantages of SPICE process Assessment model is the closeness of it to Agile development which many of modern day development companies try to adapt as it leads to higher customer satisfaction and better product quality. SPICE uses techniques very similar to Agile and we have outlined this in greater detail when we compared how applicable is SPICE to Agile Methodologies.

Because of how SPICE is designed it has many process dimensions, this can be both a good thing and a bad thing. The advantage is that because of the amount of different process dimensions it allows for a better management of a process and as such potential improvement. Each process has clear place within those dimensions which have each their own purpose.

**Disadvantages:**

# Bibliography

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