

Jim Over [JO] - ...TSP is the Team Software Process... and... Let's talk a lit bit about CMMI first. CMMI, the capability maturity model integration, is a model for organizations to do development and also there is a version for people that have services businesses and also for acquisition, but it is the result of years of research that the SEI has conducted and I happen to have been there at the start.

I joined the SEI in 1987 when all this work was just beginning and CMMI is kind of the culmination of all that and it is a model, sort of best practices organized by capabilities and levels so that organizations can look at the model, compare their practices to what is in the model and select from those practices the things that they think will help them improve. And the improvements are across many dimensions but the basic driver is to have better cost, better schedule, better predictability, better quality in the products that they build so that their customers will be more satisfied with the products that they are creating and will get them competitive advantage over others.

Vitor Silva [VS] - Can you measure that... do you have comparable figures between companies that use these techniques...

[JO] - Yes, in fact that is where the TSP, the Team Software Process comes in, that is the most recent product coming out of the SEI process group and it's real focus... whereas CMMI is the model so it tells you what you need to be doing, the TSP is really the how, it gives you the solutions to the practices that are in the model.

So it helps organizations implement what is in the model and do it faster because they don't have to invent all those solutions themselves and then it includes measures so that you can actually measure project and organization performance in a standard way against cost performance, schedule performance, quality and predictability.

That way you can baseline and benchmark yourself and actually see how you're doing compared to others and our your performance improves against your original baseline as you implement more and more of the models, and we've actually been able to... in companies around the world, a lot of well known companies like Oracle or Adobe or Microsoft or companies here in Portugal as well, Critical[Software] and others, have been able to see 4x, 5x better quality so it's not just a 5 or 10% it's substantial change, great improvements in their ability to predict cost and schedule and they've been able to improve their productivity, reducing the time reduce the time to get to market for their products.

[VS] - CMMI is usually seen to be needed or more useful for large companies, is TSP in the same level or is it directed to smaller companies...

[JO] - ...Well, company size is relative around the world... I've been working in Mexico, in Turkey, in Portugal, in South Africa, in Australia, in Colombia, Uruguay, Argentina and of course the United States and what is a small company really depends, in the United States a small company might 50 people, in Mexico it might be 5, and so, getting this work to apply in all of those settings is really important so there are perceptions for example that the model is only for large companies but the TSP implements the model so it actually... the model is sort of like a rule or yard stick and the TSP is the thing that implements what you would measure, and we've been able to get TSP working in companies large as Microsoft, Adobe and Oracle and also in very small companies of 5, 10, 15, 20 people which isn't well known but it does show

that these concepts can be used in very small organizations quite successfully.

With the TSP we've been able to make this work because we have managed to get the return on investment down to the project level, so if you implement CMMI using TSP you can implement it on one project and get return on investment within 6 months with the total cost, so that really helps in large companies, of course, but also in smaller organizations, it gives them a way to implement CMMI... now, that is kind of a new concept..., some of the countries where we've been working like Mexico or South Africa where we're working with smaller companies this is kind of new, people are just starting to try this in the last 2 or 3 years, so it's not really well known around the world yet but it definitely is working and it shows that the model implemented properly could work in any size of organization not just large companies. We hope to have some more data on that and publish that soon, but not yet.

[VS] - For someone that is developing, that is working, as someone said, in the trenches, coding, what can we expect from introducing these kinds of practices in our daily work?

[JO ] - Well, my background is also in software development, I started out writing Fortran programs in 1972 and I developed a lot of software and I continue to do a little bit of development although I don't have a lot of time for that, and the thing that I really like about what we're doing now is it's targeted towards that person working in the cube at their terminal.

What we're trying to do is provide them with a process, not a bureaucratic solution, but a tool that you can use yourself to help you take control of the project and the work, because part of the problem in software engineering is the unrealistic commitment that you have to produce this product by that date and those dates are kind of selected almost at random, when we think about those dates... it's the earliest date that anybody thought you might be able to do it but there is nothing more behind it than that often and so with the TSP we're showing software developers how to make plans and implement them much more accurately than management can, what those dates are likely to be.

By doing that the team starts taking control of the projects, we called it a self directed team, and they are able then to negotiate a commitment and turn out products that have much higher quality and still, generally, finish well ahead of what the real date would have been, because a lot of the dates that people commit to today they never make, the average slip on a software project is 15, 20%, something like that, so there is enough room there to do the job right and finish ahead of that, so that really is the benefit for the developer.

In my point of view as a former software developer and as a project manager I found this is very appealing because I can sort of... I'm in charge, and that is what is needed for this kind of work, because this is knowledge work, it's creative work, it's intellectual work and the people that are doing the work should be more in control of how things are being done, so that is one of the real benefits, and just kind of a funny illustration, an example of how it improves work life for software developers, a company in the US, Intuit, they are using the TSP and they developed a measure called pizza slices served, and what this is... if you work overtime or you work weekends then the company pays for your meals and so they took the cost of all the meals they served in a release and divided by the price of the slice of the pizza and determined in one of their divisions that they had spend about 12.000 slices of pizza that year, then they implemented the TSP and that year they only served 30 slices of pizza, which means that people aren't working nights and weekends, they have family life, they are going home on time

and to me that is the real benefit.

We shouldn't be expecting programmers, software developers to work 80 hour weeks, it's not right, so from that side alone I think that is a real benefit and by the way it's not that they were late, they actually finished ahead of schedule and delivered more features than were originally planned, so they saved almost 20 million dollars on that one release implementing TSP. So both management and the development teams are getting benefits.

[VS] - Just one final question. How was the process of going from the development team to program management and then thinking on quality assurance, how did you make that transition and why did you chose to do it... was it by chance...

[JO ] - My career... I spent the first 8 years or so developing software and then I moved into project management, and from project management over the next 8 years or so I advanced to a director level within the company I was working and it was not very satisfying to be a director for me, because I have a little bit too much technical background or something and interests and

[VS] -...you can relate with the pain that the developer feel...

[JO ] - ...and so I decided a should start to look around and see if there was something else available and the SEI was just getting started it was couple of years old and they had an ad that seemed really intriguing... "Come join us and help improve the practices of software engineering"... so I thought, that sounds interesting and I sent them my resume and in 1987 I was hired their and so I've been there ever since and enjoyed it quite a bit.

[VS] - Thank you.