

## **Scrum on Large Projects: Distributed, Outsourced Scrum**

### ***First Scrum Scaling at IDX Systems 1996-2000***

In 1996, Jeff Sutherland became SVP of Product Development at IDX Systems Corporation with a development team that grew to almost 600 people by 2000. Scrum was introduced immediately for all developers. A new organizational structure was created to coordinate Scrum teams called a Scrum of Scrums. Previous management positions were eliminated and all managers became team leaders. Typically, Directors of Engineering became Scrum of Scrum leaders. Ken Schwaber provided consulting experience in various parts of the development organization during 1996-2000 to help introduce Scrum to the organization.

Business units with product portfolios typically had less than 100 developers. A Scrum of Scrums was able to manage this size group effectively. At this level a lead architect became the Product Owner of the architecture backlog for the business unit and was the single person responsible for the architecture for that unit.

At a SVP level, there was a team of Directors and VPs that met periodically to coordinate activities across business units. The SVP, having a systems architecture background, led a virtual team of all the business unit architects to develop a global architecture backlog for all business units. Sprint planning involved the entire business unit once a month and the business unit architect was responsible for getting a commitment from each Scrum team to devote 10% of the resources in every Scrum team to addressing the global architecture backlog. This drove all business units incrementally towards a common architectural framework.

A similar virtual team strategy was used for software integration across business units and for common quality assurance processes and procedures. The virtual team strategy allowed all senior developers to be working with a Scrum team during every Sprint. The approach was designed to avoid separate specialized teams and to get everyone into front line production.

The SVP team worked well to coordinate Scrum of Scrums teams across business units. However, it was not optimal for driving a global Product Backlog across business units. Today, best practices are to implement a MetaScrum above the Scrum of Scrums teams. The MetaScrum is led by the Chief Product Owner and incorporates all stakeholders in the company. Product release strategy and the state of every Sprint is reviewed at MetaScrum meetings. All decisions to start, stop, or change Sprints are made there. Often, the CEO is the ScrumMaster for the MetaScrum.

### ***Linear Scalability in Large, Distributed, and Outsourced Scrums***

Two case studies published in 2007 demonstrate for the first time that a software development process can scale linearly across both development team size and

geographies. The SirsiDynix/StarSoft Development Labs project delivered over a million lines of code with teams distributed across the U.S., Canada, and Russia [18]. When the development team doubled in size by bringing on engineers in St. Petersburg, Russia, the velocity of software delivery more than doubled.

A similar effect was noted by a CMMI Level 5 Scrum implementation at Systematic Software Engineering in Denmark [19]. Introducing Scrum increased productivity in small teams only slightly as they were already Agile. On larger projects, they consistently achieved the same level of productivity per developer as on small teams. After achieving an 80% reduction in planning costs, a 50% reduction in total project costs, along with significantly increased user and employee satisfaction, they converted their company-wide CMMI Level 5 process documentation, training, and implementation to Scrum.

At Agile 2008, Systematic Software Engineering published a more detailed paper on combining CMMI with Scrum to produce a more disciplined environment for large projects while achieving the high velocity seen on their small Scrum projects. This paper is included and shows how Systematic has institutionalized a company wide CMMI Level 5 Scrum process.

There are many moving parts in an enterprise wide implementation of Scrum. While a clear, consistent model is achievable for any company, it must be localized into a specific company structure through inspection and adaptation, the hallmark of Scrum. This immediately leads to questions on how to best organize the company to take advantage of Scrum. It is strongly recommended to use expertise from an experienced Scrum Trainer who has led multiple enterprise Scrum implementations to work through best strategies for implementing enterprise Scrum in a specific company.