

## PM WORLD TODAY – CASE STUDY – SEPTEMBER 2008

*Editor's note: This paper is based on the experiences of the authors at Intel Corporation in the USA. While it is not a case study in the strict academic sense, we feel that this paper comfortably fits in the case studies category of PM World Today better than in other sections.*

## Program and Project Retrospectives: A Success Story of Three Teams

(Part 5 of a Series)

*By Debra Lavell and Russ Martinelli*

For a program or project retrospective facilitator, it's exciting when you talk to a team several months after a retrospective is conducted and they tell you they implemented a change that made an impact on their business processes. The excitement doesn't stop there, especially when the learning demonstrates the value obtained from utilizing retrospectives to collaboratively solve problems.

This paper will focus on three teams at Intel that utilized the retrospective methodology for collecting lessons learned on their work efforts. The first team is a product development team with risk management struggles, the second team is a small Information Technology (IT) Project Management Office (PMO) focused on auditing projects to continuously improve project and program practices, and the third team, is a platform development team looking to improve their early planning phase. All three teams have taken the learnings and applied the wisdom to their next projects or programs.

### **Team Microprocessor**

Meet Team Microprocessor, a large globally-dispersed product development team focused on bringing a key microprocessor to market. The team wanted to conduct a retrospective after a major development milestone was achieved to look back and evaluate what worked well and what should be done differently so future development teams would benefit from the wisdom gained. Among other things, the team wanted to look at their risk management practices on the program.

The team requested a neutral, skilled facilitator to lead their retrospective. The team had moved from a manual process of managing their risks to the use of an automated tool. This was a major change for the team and they wanted to understand what worked well and what needed to change going forward. The retrospective process used was to allocate one hour to review the initial survey results with the development managers and develop the primary items for team discussion. Next, the team was assembled for a two-hour virtual retrospective (see [part four](#) of this series on conducting a virtual retrospective). The team was grouped into smaller teams and assigned

open-ended questions to spark discussion and allow them to summarize the major themes they found within the pre-work survey data.

The team collectively identified three key messages associated with moving from a manual to automated process for managing their risk events:

1. Utilizing a database helped the team better understand the magnitude of the risk events being tracked and gave them the ability to raise them to the appropriate level of visibility
2. Reviewing and cross-checking risk events helped ensure that the risks were being reviewed, discussed, and managed by the correct individual or sub-team
3. By collecting all risk events in one tool, it forced real actions to occur and better mitigation plans

Next, the team focused on what could be done differently to better manage program risk. The team collaboratively identified the top two things that needed to change on the next program:

1. Allocate appropriate resources to mitigate risks. The program as a whole was resource constrained, so better allocation of resources to major risks was needed. Key learning: Scan across the collection of risks to better understanding where to allocate resources.
2. Implement a complete risk management process so the team can collectively assess the highest level risk. The current process was too individualized with insufficient effort to generate a good risk plan with well defined triggers. Key learnings: (1) Spend the time to flesh out a risk event in enough detail to create an effective mitigation plan; (2) ensure the program manager uses the risk plan to better allocate constrained resources; (3) spend time to educate the team on the value of good risk management to ensure behavior change while using creative ways to provide positive reinforcement; and (4) implement a holistic risk management process.

Following the retrospective meeting, an action plan was written to ensure the next team received the learnings and could act on them. The team talked about how a poorly defined risk plan affected work on the project. They acknowledged managing risks is a good program management practice and perhaps they could have improved on their schedule if they had managed their risks better.

## ***Results***

As part of the retrospective process, we circle back with the teams every three months to assess progress to the action plan created. In this case, the microprocessor teams are finding that identifying and managing risks is an important aspect of program management.

Both microprocessor development teams (the one still in flight and the follow-on product development team) are applying the learnings on their respective programs. As a result, the risk mitigation plans are much better with well-defined triggers. An owner is identified for each risk event who takes the lead to manage the risk through the program. To modify behaviors, the team has implemented creative ways to reward and recognize those on the team who are doing the

right things regarding risk management, and the program manager continually reinforces each week how important risk mitigation plans are to program success.

## Team PMO

Meet Team PMO, a small Project Management Office team focused on improving practices and processes within the information technology group at Intel. This team is responsible for engaging with projects to help the teams deliver on time. They manage projects that span all aspects of an infrastructure solution such as hardware, software, and system integration.

As part of their charter, the PMO uses the Standard CMMI Appraisal Method for Process Improvement (SCAMPI). SCAMPI is the standard Software Engineering Institute method to provide benchmark-quality ratings relative to the Capability Maturity Model Integration (CMMI). Intel IT has implemented SCAMPI appraisals as part of a formal process improvement effort to help teams uncover strengths and weaknesses within their current practices, and to ensure the team focuses their improvement efforts on high risk areas.

The lead appraiser requested help conducting a retrospective to look for ways to improve their current application of the appraisal methodology in order to save travel expenditure, to avoid travel impact to appraisers, and to minimize impact to solution development teams while maximizing appraisal effectiveness.

The team is a globally dispersed group, so a short, two-hour virtual retrospective meeting was conducted. This team meets regularly via teleconference so they were comfortable forming into smaller virtual teams to synthesize the pre-retrospective survey data. Each team was asked to create a set of recommendations for improvement for future appraisals, send the recommendations to the facilitator for display, and finally to present their recommendations to the entire team.

The following items were identified by the PMO team as improvements that they wanted to apply to their next appraisal effort:

1. Use technology such as tele/video conference to improve the interview process
2. Co-locate the appraisal mini-teams and collect data face-to-face if possible
3. Break tele/video conferencing time into short two to four-hour blocks. Only one block per day to leave time for normal work.
4. Allow one to two days between when the team creates the final findings and when the findings are presented to have the opportunity to reflect on and take advantage of the learnings
5. Preview the SCAMPI findings with the sponsor prior to broad presentation to avoid surprises in a public forum.

## ***Results***

Applying the lessons learned via the retrospective has helped Team PMO conduct their appraisals for effectively and more efficiently. Travel has been cut in half and the team is now able to get more work done with less people. The retrospective process uncovered the fact that appraisal team size can be reduced by 50%.

Additionally, implementation of pre-appraisal checklists has helped the team become more effective in estimating a SCAMPI appraisal cost, and in planning what can be done with the time they have allocated for an appraisal. Finally, they discovered the use of smaller teams (two people) is more effective than larger teams (four+ people).

## **Team Planning:**

Meet the last team, a platform planning team within one of the product development business units at Intel. This team is responsible for defining the platform execution deliverables such as platform requirements, value proposition, and features for the product. One of the platform planners requested a retrospective prior to the hand-off of his deliverables to a product execution team in order to accomplish the following: (1) improve platform planning efficiency through repeatability; (2) gain alignment across platform planning teams during the key planning milestones (scope, feasibility and commit); and (3) ensure all planning documents achieve an adequate work state to drive effective technical analysis by the execution teams.

A six-hour retrospective (broken into two three-hour meetings) was conducted with both the current platform planner and the execution team participating. In addition, the current platform planner invited the platform planner for the follow-on product to sit in the retrospective so the learnings can be immediately applied to the next program. This is a 'recommender' and 'receiver' model where the receiver commits to making changes on the next program.

Five recommendations came out of the current planning effort, and the receiving planner committed to implementing three improvement items:

1. Ensure the platform plan delivered is achievable by creating and communicating a timeline that includes a much narrower scope with a better understanding of constraints.
2. Add a resource to the planning effort to focus on identifying opportunities, gaps and constraints.
3. Improve requirements documentation and management. The planning team is piloting an enterprise-wide Product Lifecycle Management (PLM) tool to integrate platform data and manage requirements.

## ***Results***

It is still too early to tell due to the cycle time duration associated with planning and executing an Intel platform. We do know that the business unit is committed to using the retrospective methodology as a core element of its product development process. Two planning teams have

now captured lessons learned and are sharing their information with a third team that is beginning the planning process.

In all, over 30 key learnings have been identified within this business unit, spanning five product generations. All the learnings are being captured in a common repository for all planners, architects, and engineers to query, browse, and search for learnings. This is a way for all planners to give back to other teams by sharing best practices and innovative solutions.

## Summary

At Intel we have a variety of project and program teams, ranging from a size of less than 20 people, to more than 2000 people, who are continuously looking for ways to improve their current practices. We know improvement efforts are always a challenge, and the retrospective methodology has demonstrated value to the Intel teams who have employed it.

This paper provided three mini-case studies on the results obtained from using the retrospective methodology to achieve varying improvement goals by varying types of teams. All three teams have taken the key learnings and applied those insights to their follow-on work efforts.

## Series Conclusion

This completes our five-part series on conducting program and project retrospectives. Throughout this series, we explored the various aspects of using retrospectives to uncover and drive improvements in program and project management practices. [Part one](#) provided an introduction to the retrospective methodology, [part two](#) described how we introduced the retrospectives methodology into Intel, [part three](#) explored the people and behavioral side of retrospectives, [part four](#) explained how to conduct retrospectives in a highly dispersed team environment, and finally, this paper provides three mini-case studies of retrospective use at Intel.

We thank PMForum and *PM World Today* for the opportunity to create this series of papers, and we hope you have enjoyed reading this series as much as we have enjoyed writing it!

For more information or assistance with conducting retrospectives for your organization, you can contact us at [www.programmanagement-academy.com](http://www.programmanagement-academy.com).

© Copyright 2008 by Debra Lavell and Russ Martinelli

*About the Authors**Debra Lavell**Author*

**Debra Lavell** works as a retrospectives expert in the Corporate Platform Office at Intel Corporation, and has delivered over 80 program and milestone retrospectives over the past 5 years. She also designed the “Facilitating Effective Retrospectives” training course which she has delivered to over 50 program and project teams. In addition to her work in retrospectives, Debra is also a recognized expert in requirements engineering, is a member of the Rose City Software Process Improvement Network Steering Committee, and president of the annual Pacific Northwest Software Quality Conference

**Russ Martinelli***Author*

**Russ Martinelli** is the Manager of Program Management Methods within the Corporate Platform Office at Intel Corporation, where he focuses on the implementation of program management practices across Intel. Additionally, Russ is the chairman of Intel’s global Program Management Community of Practice, an adjunct professor at the University of Phoenix, and co-founder of the Program Management Academy. Russ has held a variety of positions at Intel and Lockheed Martin in the areas of systems engineering, general management, operations management, and project and program management. Russ has recently published the book titled “Program Management for Improved Business Results” (ISBN: 0-471-78354-4). Contact Russ at: [russ.martinelli@programmanagement-academy.com](mailto:russ.martinelli@programmanagement-academy.com)