

# Process Action Teams

## From “Black Holes” to “Shining Stars”

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*Often because of unfortunate experiences, many people desperately avoid being selected for a process action team (PAT). No one wants to waste scarce time participating on an unproductive “team.” Participants want to know what they are expected to produce, when they must produce it, who wants it and why, and how they are supposed to do whatever a PAT does. There is a better way to form PATs. This article addresses where PATs fit in the big picture of process improvement, who should be on a PAT, and how a PAT can create a defined and documented process. Results, such as the number of PAT sessions required and the estimated time for PAT activities, are provided.*

Senior leaders of many organizations form PATs or other similar working groups to improve processes. These same leaders often believe that the business processes at the heart of the organization must be meticulously well defined and documented. It is often believed that all the PAT must do is quickly analyze the process and make some improvements.

Unfortunately, the opposite is usually true. Where any process documentation exists, it is often sketchy. Frequently, important information is not written down at all but instead resides in the heads of a few people. Often, the disappointing outcome is either a black hole—a PAT that goes on forever collecting input and thrashing about without producing any useful output—or a PAT that is terminated after management tires of waiting for results.

Process improvement by definition is impossible without defined and documented processes to improve. Unfortunately, most PATs do not know how to define and document a process. If there were a process that PATs could follow and assistance to follow the process, PATs could become shining stars that save significant amounts of time and effectively perform the task of defining and documenting critical business processes. The processes could then enter into the continuous process improvement cycle.

### Where Do PATs Fit?

A variety of groups are often formed within an organization to improve processes, including a management steering committee (MSC), a software engineering process group (SEPG), and PATs. Pilot projects are used to test the new processes to ensure they are “fit for use” before the MSC publishes policies that mandate the use of the new processes by other projects in the organization. Figure 1 depicts a simplified view of some of the most important relationships. This article focuses on the relationship between the PAT and the SEPG.

Unless PAT members have experience defining and documenting processes, which is a specialized skill, the PAT will need the help of a group with such expertise. As depicted in Figure 1, the SEPG should have process documentation exper-

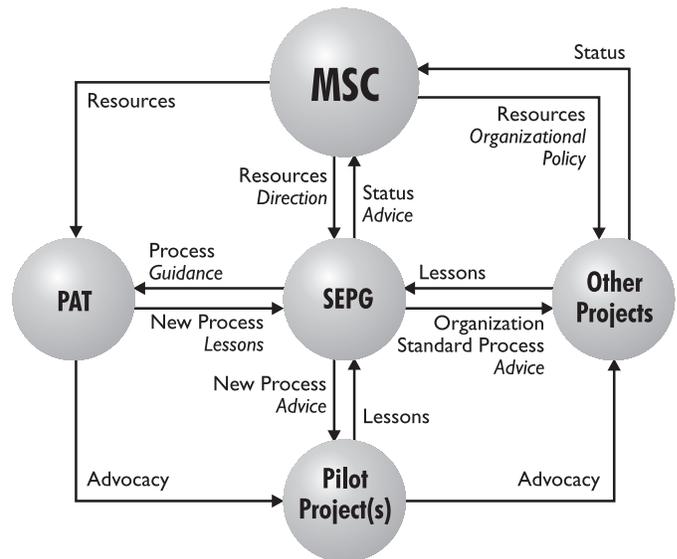


Figure 1. *Process improvement team relationships.*

tise gained from working with PATs. If not, the SEPG needs training and coaching in the use of such a process before they can guide the PATs. When SEPG training and coaching is not feasible, an outside organization with the required expertise should be brought in.

Using a process to define processes, the PAT defines and documents the new process and identifies valuable lessons learned, under the guidance of the SEPG or an appropriate outside group. Once the new process is documented, the emphasis turns to implementation via a pilot project aimed toward eventual adoption throughout the organization, followed by continuous process improvement. Because the group that guides the PAT deals with the specifics of process definition and documentation, what do the members of the PAT bring to the table?

### Who Should Be on a PAT?

The intent of the PAT is to codify (define and document) the organization's best practices, then continuously improve the documented process. Therefore, the members of the PAT should come from among the organization's experts, those who

best perform the existing process. For example, a PAT that defines a configuration management (CM) process should consist of three or four of the top CM managers or technologists from the organization who are involved in process improvement. A significant point to keep in mind when selecting PAT members is that they will codify what they know. Carefully assemble a small PAT (three or four members) from your organization's experts. Do not select whomever happens to be available or whomever you "can afford to lose." Selecting the proper team members is the most important determinant of the PAT's success.

By nature of their abilities, experts are in high demand throughout the organization. The "process for PATs" described later in this article employs a key strategy to minimize the time PAT members are away from their primary duties.

PAT members should have no PAT responsibilities outside of working sessions. Process documentation activities that take place between working sessions are performed by the PAT facilitator and administrative staff, not by the PAT members. Therefore, PAT members are only required to bring their knowledge to the table, not their process documen-

tation skills. The PAT facilitator should be available at least half time while facilitating a PAT.

One benefit of having experts on the PAT is credibility. These experts are the people who know, use, and refine the current processes every day. Because they represent the top performers in the organization, it is their processes that management should want to codify. They also significantly improve buy-in from everyone else in the organization, without which the best processes will likely fail to be adopted by an organization.

Experts also determine the degree of improvement that should be incorporated into initial process definition and documentation. Our experience at pragma Systems Corporation indicates that process definition and documentation is most effective when there is a mix of *as-is* processes and *should-be* processes in the documented process. Experts from throughout the organization have the experience with the current process to ensure that *as-is* and best practices are incorporated into the process. In addition, experts also are sensitive to how much *should-be* process activity the organization can tolerate from a change management perspective.

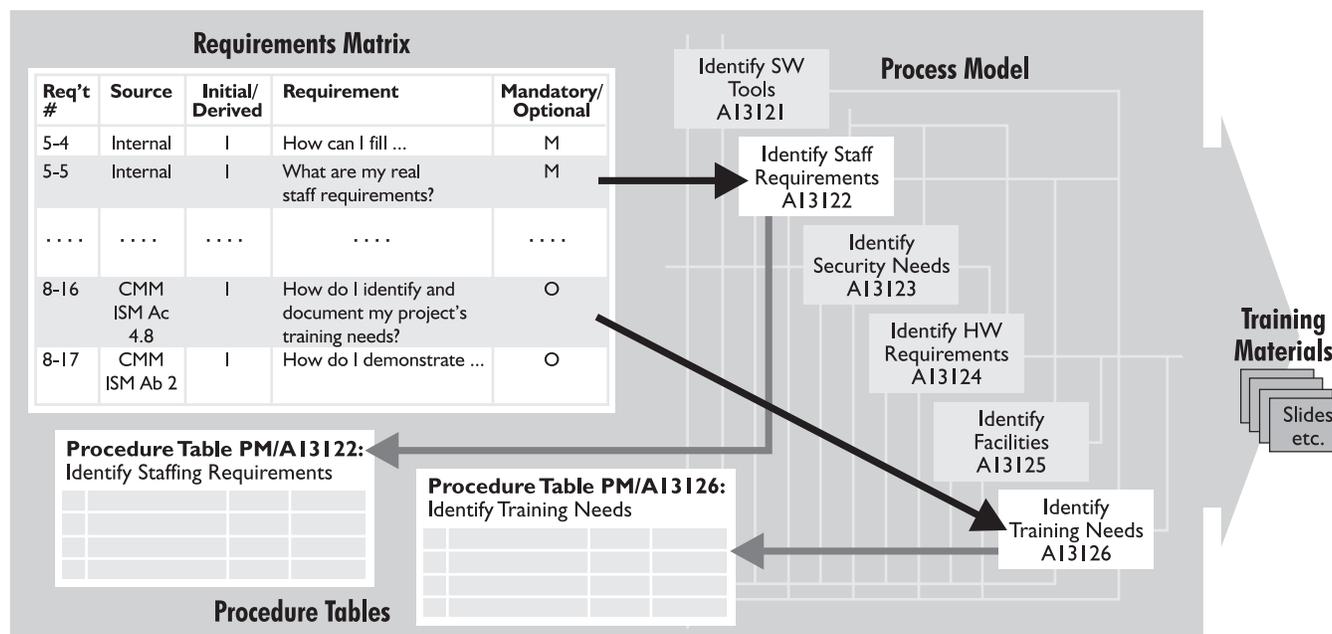
## A Process for PATs

### Before Forming a PAT

Senior management must make several critical decisions before forming any PATs. These decisions serve as the foundation for all the PATs.

- Decide what artifacts must exist to define and document a process; otherwise, the PATs are left on their own to determine what constitutes a documented process. Several PATs could go off in different directions, documenting processes using different methods and tools, which would result in a morass of inconsistent process artifacts.
- Decide which process(es) should be defined and documented first.
- Decide on the purpose, scope, and viewpoint for each process; otherwise, each PAT will again be left to its own discretion and may or may not hit the mark on the purpose of the process. The PAT may include unnecessary process activities or exclude important activities.
- Decide who will facilitate the PAT (usually an SEPG member or an outside group with the necessary expertise). If chosen by default, the

Figure 2. Process artifact relationships.



SEPG may quickly become overwhelmed with facilitating duties.

Once these decisions are made, senior management must follow up by providing the resources required to implement the decisions. The most important resources are the time of the organization's experts who will serve as PAT members and the PAT facilitator.

Senior management must provide funding or other resources to bring in an outside group or individual if the SEPG does not have the expertise to facilitate a PAT through the activities in a process to develop processes. This outside group or individual will train and coach the SEPG members or facilitate several PATs or both. Once these issues are addressed, PATs can be formed with the assurance that they will produce similar and consistent process artifacts that hit the mark relative to the purpose and scope of each process.

#### The PAT Kick-off Meeting

The purpose of the PAT kick-off meeting, chaired by the PAT facilitator, is to spend a day orienting the PAT team to the task ahead. If the PAT is to define a process that must be compliant with the Capability Maturity Model (CMM) for software, some time should be used to become familiar with the CMM and its structure and the key process areas the PAT must address. And if the process is CMM-related or is to be CMM-compliant, each PAT member must have a copy of the CMM. The PAT also should learn the process that the PAT will use to define and document their process.

In the absence of a separate PAT kick-off meeting, the first day of the initial PAT working session should be used for the same purpose.

#### Gathering Process Requirements

Just as with development of a software system, requirements serve as the foundation for the process to be defined. Requirements for the process are gathered via a half-day customer focus group meeting and are extracted from any applicable process standards such as the CMM. The customer focus group meeting is extremely important because it

involves the future users of the process the PAT will produce. The customers of the PAT go through several brainstorming exercises to identify the internal requirements for the process. Some of the internal requirements will overlap the requirements extracted from a standard like the CMM; however, some requirements will be unique to the organization and must be captured. Ensuring that these unique requirements are captured and incorporated into the process being developed dramatically aids process adoption. This occurs because the customers can see that the process will specifically address their requirements. The PAT facilitator conducts the customer focus group meeting with the PAT members observing. The facilitator also extracts the requirements from any applicable standards, then enters the requirements into a tracking mechanism such as a requirements matrix.

This activity should not be bypassed for two important reasons. First, the requirements are used by the PAT facilitator to guide the PAT through the initial phases of the process model creation. The requirements are the foundation of the process. Second, if compliance with the CMM or some other standard is important, such compliance cannot be demonstrated unless the requirements have been recorded and subsequently traced to the process. Demonstrating compliance later to an evaluator or assessment team would be much more difficult and open to subjectivity on the part of the evaluator or assessment team.

#### PAT Working Sessions

The first working session of the PAT should occur about one and one-half to two weeks after the customer focus group meeting. The spacing between subsequent working sessions should also be about two weeks. Each working session of the PAT should not exceed three days and should be no less than one and one-half days. To develop the required process artifacts, the facilitator should lead the PAT through a series of highly structured and focused activities. Figure 2 illustrates the relationships between several process artifacts.

Similar to the internal requirements, external requirements are extracted from applicable standards, such as the CMM, and are also entered into the matrix by the PAT facilitator.

All the requirements are translated into activities, inputs, outputs, standards, and resources in a process model. The Integrated Definition method is recommended; however, a number of other graphical process modeling methods may be used. The process model provides a graphical representation of the structure and flow of the process. The process model is not detailed enough to execute, however, unless the process activities are decomposed to the point that the visual model is useless because of extreme complexity. Therefore, the facilitator stops the PAT's process modeling activities when the process model reaches the point where each individual, or lowest-level, activity box in the process model can be described in roughly six to 10 steps in a procedure table. The procedure tables contain the detail necessary to execute the process. PAT members provide the detailed steps for each procedure table to be documented by the PAT facilitator.

By necessity, the process model must have short, clear labels to aid in model readability. To capture the more detailed meaning behind those labels, a process glossary is created to define all the process model terms.

Any time after the process model and procedure tables are created, the PAT spends some time during each working session to map the process requirements to the process model and add this information to the requirements matrix.

When a process is executed, it is helpful to have forms to fill out or examples to follow of products that must be produced. In most organizations, many of these forms and examples already exist. In the spirit of capturing best practices within the organization, the best of these forms and examples are referred to in both the process model and the procedure tables and are physically or electronically collected into a single reference location. As subject matter experts, the members of the PAT collect the forms and ex-

amples, which are then maintained as part of the process by the SEPG or the SEPG's equivalent.

To ensure they develop processes for typical projects within the organization, each PAT is provided a description of the purpose, scope, and viewpoint for the process when they begin. As a result, the PAT creates a process that is somewhat generic or standard with high-level tailoring guidelines that help "real life" projects determine which activities can be eliminated or modified and under what conditions.

Training provides a tremendous boost to any effort to adopt a new process. Therefore, the final set of process artifacts produced by the PAT are training materials that generally consist of overhead slides and instructor notes.

The number of working sessions that each PAT needs varies depending on the complexity of the process and on how much time the MSC wishes to spend on a process. pragma Systems' past experience facilitating client PATs indicates that the minimum number of three-day working sessions should be four, with nine sessions as the upper limit to ensure timely results. The time between sessions should be 10 working days to allow sufficient time to generate the process artifacts for use at the next working session. As a guideline, a four-session PAT should take about three months, and a nine-session PAT should take about eight months.

#### Customer Focus Group Follow-up Session(s)

If a PAT lasts longer than three months, a follow-up meeting with the customer focus group is recommended shortly after the PAT dissolves and again at two to three months thereafter. These follow-up meetings help with the eventual adoption of the process. Keeping people, especially those who helped generate requirements, informed about the status of process development is critical.

#### Peer Review

The final meeting of the PAT is an all-day peer review that involves one or

more PAT members and two or three peers from within the software organization. Copies of the process artifacts are distributed to the reviewers several days before the review. The process artifacts are then reviewed during the meeting to assess their readiness for pilot testing—not to assess their level of perfection. This distinction is important, since many engineers tend to fall into the trap of trying to engineer as perfect a process as possible before letting others see it, which results in a PAT that spends much more time than necessary to produce a process. Moreover, the process may eventually be revised to account for an issue the PAT did not consider.

Move the developed process artifacts into pilot testing as soon as possible, then make improvements based on actual lessons learned. Following the peer review meeting, the process artifacts are baselined as Version 1.0 and are available for rollout to the organization, usually via a pilot project approach.

#### Results

The process described above has been used with excellent results by pragma Systems Corporation to define and document several processes. The longest PAT to date defined and documented a project management process. The PAT required seven three-day working sessions over a period of six months and addressed three key process areas of the CMM. The shortest PAT to date defined and documented a process to roll out processes into an organization and improve them via lessons learned and process improvement suggestions. Four two-day working sessions over a period of three months were required.

Intangible benefits include enthusiastic PAT members due to structured and focused PAT activities that lead to a well-defined conclusion, satisfied senior management due to visible and significant progress by the PATs toward well-defined goals, and contagious enthusiasm for process improvement that spreads from the PAT members to the rest of the organization. This enthusiasm

often inspires the staff to begin early and use informal or draft versions of process artifacts produced by the PAT.

#### Summary

Serving as a member of a PAT can be a highly rewarding shining star experience. Successful PATs are small, three to four people, and staffed with the organization's experts. They also exist in an environment where the roles and responsibilities of the various groups involved in process improvement are well understood. A highly skilled PAT facilitator and a well-defined PAT process ensures that the PAT, through highly focused and structured activities, creates the process artifacts identified by the senior leaders of the organization. If these conditions exist, a PAT more quickly defines and documents a process that can successfully enter the cycle of continuous process improvement. ♦

#### About the Author

**Doug Orville** has been a senior consultant with pragma Systems Corporation since 1995, where he leads process improvement executive planning workshops, consults with on-going MSCs and SEPGs, facilitates PATs, and teaches customized process improvement courses and workshops. He spent almost 17 years in the U.S. Air Force in various software management and process improvement positions. His assignments included design, development, and maintenance of software for near real-time missile warning, command and control, and intelligence systems; planning, design, and implementation of a major mainframe to client-server migration project; development of a successful software metrics definition process; and leadership of an SEPG for a software organization of roughly 1,200 people.

Orville has a master's degree in business administration from the University of North Dakota and a bachelor's degree in computer science from the University of Wyoming.

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