



# Sponsoring Process Improvement

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*Institutionalizing a process for continuous improvement in an organization requires active sponsorship from a leader. It can be particularly challenging for a leader to sustain momentum for long-term process improvement in an organization that excels at crisis management. This article presents lessons learned from sponsorship of a process improvement effort based on the Software Acquisition Capability Maturity Model (SA-CMM<sup>SM</sup>) at Warner Robins Air Logistics Center (WR-ALC) Special Operations Forces Directorate (LU).*

In 1997, WR-ALC/LU initiated an internal process improvement effort based on the Software Engineering Institute (SEI) SA-CMM. Our goals were to institute a process for continuous process improvement, to become a knowledgeable and efficient acquisition organization, and to achieve SA-CMM Level 2 within 18 months. The aim of our improvement effort, which we called ASPIRE (Acquisition and Sustainment Process Improvement/Re-engineering Effort), was to improve the software acquisition and sustainment processes of the System Program Office (SPO), including the ability to

- Acquire and deliver systems in less time.
- Reduce development costs.
- Reduce lifecycle costs.
- Deliver highly reliable software-intensive systems that meet the needs of our customers.

This article shares what the directorate has learned from this effort to date, which is, that process improvement is harder than it may appear.

## Process Improvement

On June 27, 1997, LU completed an SA-CMM-based assessment for internal process improvement and finalized the results in a Findings and Recommendations Report prepared in August 1997. With the help of the SEI and the Software Technology Support Center (STSC), we clarified the roles and responsibilities of our Management Steering Group (MSG) to provide management and direction and our System Process Improvement Network (SPIN)

team to oversee implementation of technical process improvement. Initially, six Process Action Teams (PATs) of five to six members were established to define and develop software acquisition processes, and additional PATs will be established as we proceed.

The obvious reason we chose to apply the SA-CMM was to improve the directorate's expertise in software acquisition. However, software acquisition was of interest to only a small number of people within the SPO. Because some acquisition processes are common to both software and hardware, we hoped that the improvements that would lead us to achieve SA-CMM Level 2 would help us improve acquisition in general. Therefore, we used the SA-CMM to learn how to institute process improvement and applied the techniques of SA-CMM-based process improvement to the larger organizational context.

My experiences with improvement programs (Total Quality Management [TQM], Zero Defects, and Management by Objectives) had shown me how difficult it is to institutionalize a process for continuous improvement. In our organization, as in many others, process improvement tends to follow a 24-month fad cycle; when the cycle is completed, lasting improvements can be difficult to identify. Nevertheless, the discipline of the SA-CMM model, along with the available expertise from the SEI and the STSC, offered the hope that the SA-CMM could be used to achieve a higher purpose: an institutionalized process by which things get better in the SPO.

I expected that institutionalization of process improvement would take about three years. I would be at WR-ALC/LU for three years, so I thought we had a

chance to make a good start. My goal as a sponsor was to make process improvement a significant enough part of daily processes and create sufficient momentum so the SPO would have a reasonable chance to sustain process improvement beyond my tenure.

To reinforce the message that process improvement should be a normal part of its everyday work, the organization has been extremely careful not to make process improvement a program. Reengineering was a program; TQM was a program, and I did not want to make the "program" mistake again. While at the Air Power Institute, I wrote a book on TQM and how it could be used on the flight line [1]. At that time, TQM literature was not extensive. I found that when TQM failed—which it most often did—it was because it gave people tools before it identified the problems the tools were intended to solve. As a result, people used these tools to fix annoyances: "Let's get rid of staff meetings and repave the parking lot." With its focus on improvement of the software acquisition process, the SA-CMM seemed to be a way to keep the implementation of TQM grounded in real, immediately pressing problems.

## Allocating and Committing Resources: Process Improvement in the Context of Crisis Management

There is an old saying, "If you always do what you did, you always get what you got." It can be particularly difficult to change old habits in an organization in which everything is crisis management. As a Special Operations Forces (SOF) organization, WR-ALC/LU is, by necessity, highly skilled at crisis management.

*CMM is registered in the U.S. Patent and Trademark Office.*

In the language of the SEI CMMs, we were a typical Level 1 organization—ours was a culture of institutionalized heroism. But in a culture of heroism, nothing gets better, heroes retire, and their skills retire with them. Ironically, we found that our skill at crisis management was a liability when it came to instituting process improvement. Employees had a tendency to say, “I don’t have time for this quality stuff; I have a job to do.”

In light of this tendency, we established a rule that *never* would more than 5 percent of our total SPO resources be devoted to process improvement. This rule gave me a powerful way to combat resistance. Whenever someone complained about the overhead that process improvement would add, I would say, “Surely you can do your work with 95 percent of your resources.” In practice, we have never used more than 4 percent of our resources on process improvement, and we averaged around 2.5 percent. I did not take much of their resources. If I had pushed employees harder—to dedicate around 5 percent to 6 percent—I would have overtaxed them. On the other hand, an effort of about 1 percent would not be enough to sustain improvement. At the 2.5 percent level, I knew that we would make steady, measured progress without burning out. I also knew that the effort would not fizzle out and die.

### Metrics and Process Improvement

Metrics are important to project success; however, a manager who manages only with metrics is probably easy to deceive. I have discovered that things that are easy to measure are often not particularly important, and things that are the most difficult to measure tend to be the most important. For example, I check the schedules of the PATs against their progress, and I listen to everybody in the MSG meetings to gauge attitudes about how well senior staff is integrating process improvement into how we do business. I believe attitudes are probably the most important barometer of success. A metric I track carefully is the amount of effort we spend on process improvement across the SPO. This metric tells me if the effort is increasing, decreasing, or staying about the same.

To reinforce the idea that we could improve our processes and not place too much strain on our resources, I had to demonstrate my willingness as a leader to apply the resources that I controlled to the effort. For example, to convey that the MSG was not add-on work, I released employees from private staff meetings to participate in the MSG. Setting a bound on resource commitments sent the message that process improvement is not a periodic, overwhelming demand on the employees’ time that has a beginning and an end but is the normal way we do business. The MSG is now perceived as a part of everyday work processes.

### Sponsorship

Process improvement efforts are a constant test of senior leadership. You have to back up your talk with actions and you cannot waver. If leadership wavers and process improvement moves down the scale of importance, the effort will die. Additionally, if sponsors establish and reinforce a vision for the effort, they move beyond passive endorsement to active sponsorship.

Although we faced challenges, such as increased competition and a potential loss of market share, we did not have a significant emotional event to trigger process improvement changes. When your livelihood and your life do not depend on change, it is an uphill battle to sustain commitment for process improvement; therefore, it was essential to remind everyone at least every six months, via correcting meetings called “visioning” sessions, where we were going and why we were going there.

To sustain commitment is most difficult in the early stages of the effort, before there are tangible results you can touch, feel, or sense. Therefore, leadership must strike a balance between patience and active engagement.

If you are the type of leader who relies only on the evidence available to your senses, you will fail. In the beginning, everything is intuitive and conceptual, and leaders must be willing to let the process percolate and allow employees to find their own solutions to the problems they encounter. I adapted our

processes to this new way of operating. If I had pushed too hard in the early days of our effort, we may have achieved some ephemeral success, written it up, congratulated ourselves, and terminated the program. I believe patience is the most essential quality for the leader of a process improvement effort. If you do not have patience, it is best not to go through the pain. Abort early and avoid the rush.

On the other hand, the leader must also know when to push. If anything, I probably erred on the side of patience. Attempting to see if the effort could sustain itself with minimal intervention in the MSG, I stepped back too far too soon. For four or five months in the second year of the effort, I was not actively engaged in the process. Eventually, the SPIN let me know that the effort needed my active participation.

### Visioning

In March 1998, at a meeting of the MSG, we held our first visioning session. We formulated a vision of an improved organization, a picture of what it would be like to work in that organization, and a list of the expected payoffs. This strategy required the MSG to be directly involved in the improvement process. At this meeting, I addressed the staff: “I’m willing to quit right now. If you don’t want to do this, we’ll stop. You know why I think it’s important. I’m not going to be here forever. We don’t need to drag this out until I retire 18 months from now. If you continue, things will get better, and you’ll see many of the benefits I’ve been preaching about. But we don’t have to do this. I am willing to disband the SPIN team and cancel all the PATs, and we’ll go back to what we were doing. If you see long-term benefits for the SPO and for yourselves, then I want you to make the commitment. But you will have to agree to support the PATs. The decision is yours.” And I left it to them to decide. This meeting became a watershed when the rest of the MSG, without my influence and after much discussion, decided to continue the improvement effort.

Prior to this meeting, the PATs had not produced anything, and enthusiasm

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for the effort began to wane. We had found lots of ways to do nothing. The PATs realized that a group that works for only two hours every week will get little done over a long period of time. Eventually, we implemented an approach where employees would block out two weeks and cram; however, you must plan for and schedule these concentrated meetings at least three months in advance because most employees' calendars are full in the near term. PAT and SPIN productivity was the result of teams maturing as they went deeper into process development.

Since the visioning session and the changes initiated by the SPIN and the PATs, I have noticed much more enthusiasm from employees. PATs have begun to complete their work, and the results have been encouraging. For example, the first PAT, Acquisition Life Cycle Checklist (ALCC), dealt with the SA-CMM in

general terms. We developed a checklist of every action necessary to add new capability or to enhance an existing capability on SOF weapons systems (concept development through system life sustainment). The checklist applied to all disciplines in the SPO. For the first time, we had a comprehensive layout of this extremely complex process. We used the ALCC to develop program management plans and schedules, as an on-the-job training tool, and as a management tool to track program progression from development through system installation. The checklist and associated training were well received by the work force; one software engineer with 15 years experience commented that she wished she had the checklist 15 years ago.

Our second PAT, Software Fielding Process, dealt with an acute LU problem. Acquisition reform and base realignments had removed the infrastructure

that supported new software distribution to the war fighter. This PAT developed a process to immediately disseminate software through a password-protected, secure Web site. User organizations have successfully tested the system and are excited about the immediate accessibility they now have. With this new process, software changes can be available to user organizations within hours of software acceptance.

Another sign of growing acceptance is that those who participated in the early PATs have volunteered to join new PATs. Our ongoing PATs address risk management, standardized cost estimation, training, and solicitation policy and planning. At the staff's request, I did not attend our "revisioning" session held in October 1998. As they wrestled with recommitment to ASPIRE, as well as meeting the demands of day-to-day challenges, the staff wanted the freedom to air their problems, differences, and gripes and develop their plan to help me manage the organization. The results were especially satisfying. Each senior manager accepted the challenge to wholeheartedly support ASPIRE and manage the SPO business as a unified group, now identified as the Management Working Group (MWG). The MWG meets monthly without my direct intervention, and the MSG meetings are now quarterly sessions. To keep our direction on track, I provide coaching and steering that is in line with our SOF SPO mission and goals. At our next revisioning session, we will check our progress by identifying what has and has not been working and what we need to change in our approach.

I have no doubt that there will be another period after the early successes have been achieved and instituted when everyone says, "Okay, now we are done." The idea has not yet fully sunk in that we have a system for process improvement. If something is wrong with our work processes, we can feed the problem into the new system and allow the system to take care of it and come out with a new process that is implemented, reviewed, and updated. Our organization will not have sufficient confidence in our processes until we realize that process improvement is forever.

## Lessons Learned

To summarize, following are some key lessons I learned as sponsor of our process improvement effort.

- Do not characterize process improvement as a separate "program"; characterize it as the normal way of doing business.
- Spend no more than 5 percent of total organizational resources on the improvement effort.
- To monitor progress of the effort, track resources spent on improvement, track PAT progress against schedules, and pay attention to attitude changes.
- Whenever possible, demonstrate your commitment by applying resources that you control to the effort.
- Clearly identify and communicate the problems that process improvement are intended to solve.
- Establish a vision for the effort, and at least every six months, reinforce the vision and the commitment to achieving it.

- Enable PATs to meet for concentrated periods; schedule the meeting times several months in advance.
- Find the right balance between patience and active engagement. ♦

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### About the Author



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### Reference

1. "Quality Flight-Line Maintenance," Air Power Research Institute, U.S. Air Force, Maxwell Air Force Base, Ala., 1989.

## Coming Events

### Eleventh Annual Software Technology Conference

**Dates:** May 2-6, 1999

**Location:** Salt Palace Convention Center, Salt Lake City, Utah

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