

Government-wide Information Technology (IT) Acquisitions

Increasing Likelihood of Success Through Leadership and IPT Development

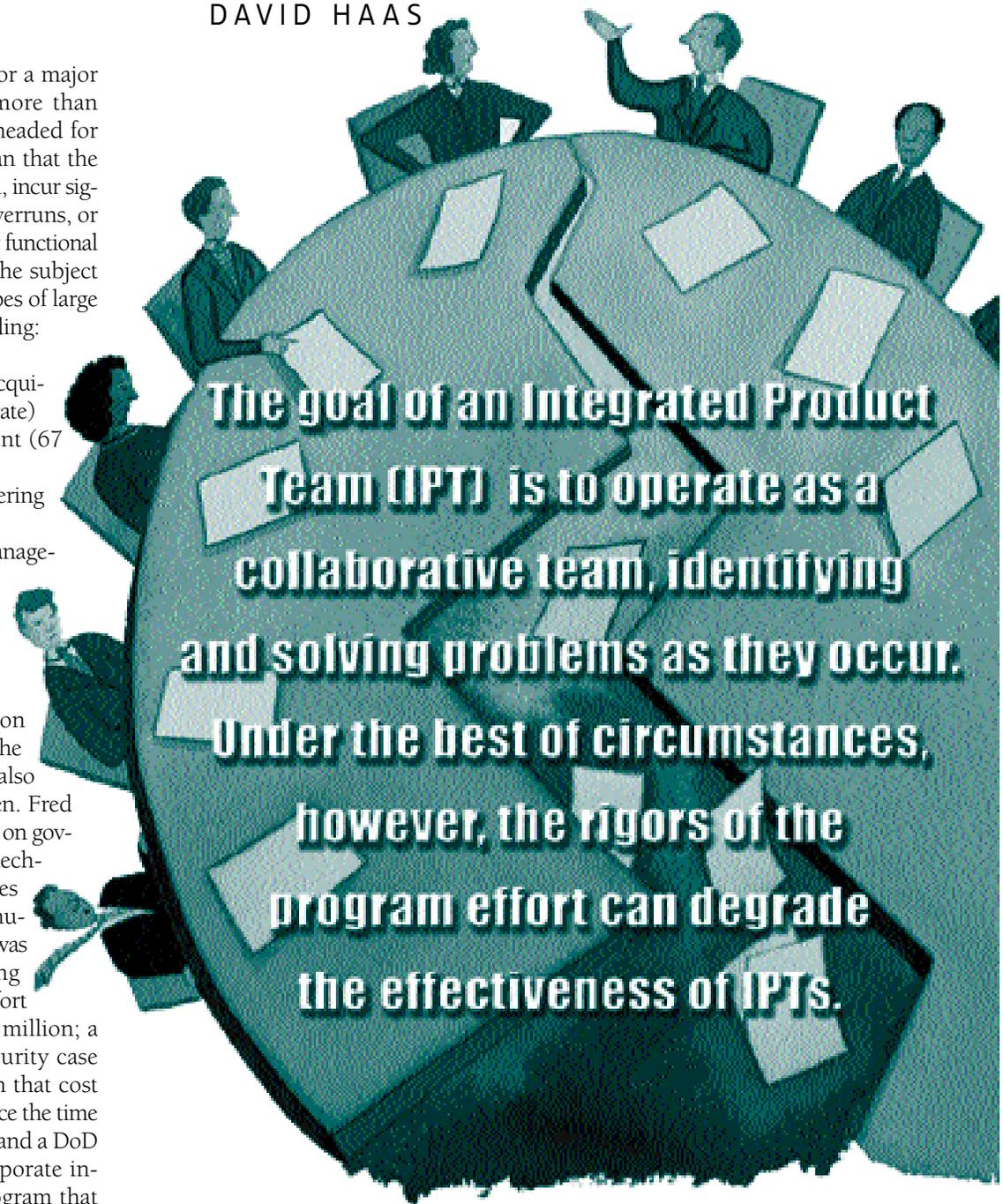
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If you provide support for a major acquisition program, more than likely your program is headed for failure. By failure, I mean that the program will be cancelled, incur significant cost and schedule overruns, or become unable to meet major functional requirements. Research on the subject is consistent across many types of large acquisition programs, including:

- Information Technology Acquisition (83 percent failure rate)
- Supply Chain Management (67 percent failure rate)
- Business Process Reengineering (70 percent failure rate)
- Customer Relationship Management (55-75 percent failure rate).

The Silent Crisis in IT Acquisition

The list of federal acquisition successes is very long, but the list of publicized failures is also significant. In June 2001, Sen. Fred Thompson produced a report on government-wide information technology (IT) acquisition failures that described an Army ammunition tracking program that was unable to produce a working system after eight years of effort and an expenditure of \$41 million; a Department of Defense security case control management system that cost \$76 million, but did not reduce the time necessary for investigations; and a DoD environmental security corporate information management program that



The goal of an Integrated Product Team (IPT) is to operate as a collaborative team, identifying and solving problems as they occur. Under the best of circumstances, however, the rigors of the program effort can degrade the effectiveness of IPTs.

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could not demonstrate success after \$100 million in expenditures and nine years of work. According to the DoD Inspector General, "Virtually every information technology project that we audit exhibits significant management problems. Those flaws include poorly defined requirements and frequent user dissatisfaction."

The president's staff, legislators, and the military are aware of the problem and have tried for years to implement solutions through legislation, executive order, regulation, and policy. Prominent legislation includes:

- **Government Performance and Results Act of 1993**—Requires agencies to anchor performance improvement in sound strategic planning. Calls for careful assessment and (if necessary) redefinition of an organization's mission, goals, customers, and performance outcomes.
- **Paperwork Reduction Act of 1995**—Emphasizes achieving program benefits and meeting agency goals through the effective use of IT. In plain terms, agencies should maximize the potential of technology to improve performance, rather than simply automating inefficient processes.
- **The Clinger-Cohen Act of 1996**—Requires agency heads to analyze the missions of their organizations, benchmark and assess the performance of their business processes and, based on this analysis, redesign their mission-related and administrative processes (as appropriate) before making significant investments in information technology to support those missions.

President Bush addresses these concepts in his President's Management Agenda (PMA), which embraces a vision for reform guided by three principles: citizen-centered (not bureaucracy-centered) government; results-oriented government; and market-based government, actively pro-

Critical Success Factor	Rank Order
Executive support	1
User involvement	2
Experienced project manager	3
Clear business objectives	4
Minimized scope	5
Standard software infrastructure	6
Firm basic requirements	7
Formal methodology	8
Reliable estimates	9
Other criteria	10

FIGURE 1. **The Chaos List (Standish Group)**

moting rather than stifling innovation through competition. The Office of Management and Budget has put teeth into the PMA by issuing agency report cards on a quarterly basis that initially found insufficient implementation of these mandates in most agencies.

Common Characteristics of Successful Programs

The military is moving to identify the critical factors for IT acquisition success. The Assistant Secretary of the Navy established the Software Program Manager's Network (SPMN) in 1992 to identify industry and government software best practices and promote these practices to managers of large-scale DoD systems acquisition programs. Operation and administration of the network now belong to the Office of the Secretary of Defense for Acquisition, Technology and Logistics. The best practices promoted by SPMN include: work breakdown structures, earned value management, requirements management, and other program management tools designed to provide effective program management oversight and project control.

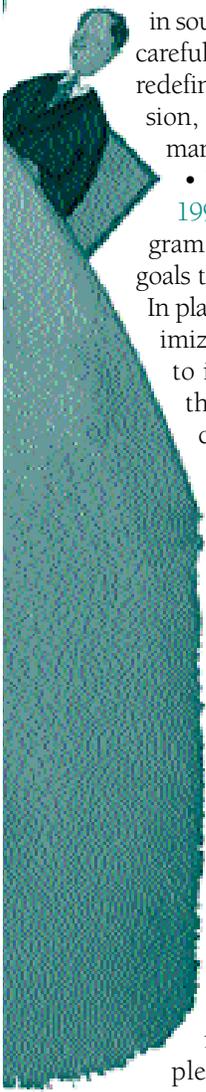
Intuition might lead one to believe that these and other technical best practices are the keys to addressing the causes of program failure. The best-practice Capability Maturity Model, promoted by the Software Engineering Institute at Carnegie-Mellon University, and the Pro-

gram Manager's Book of Knowledge, published by the Program Management Institute, reflect the view that lack of technical rigor causes program failure. However, research finds that program failure is most closely correlated to low levels of leadership support and user involvement in the program.

A well-known study in this area is the CHAOS List produced by the Standish Group, which summarizes the critical factors for program success in order of importance to program success (Figure 1). Additional research and studies identify similar causes of program failure including lack of sustained management commitment and leadership, cultural lack of preparation, and resistance to change.

In a November 2002 report, the General Accounting Office identified nine key practices for successful government transformation (Figure 2), which further confirm the critical role of leadership and communication in program success. While employee involvement is listed as the eighth most important item, readers will note that several highly rated items, such as dedicating an implementation team and establishing a communications plan, are components of employee involvement.

I've found over the years that some leaders who initiate change and transfor-



mation efforts then turn around and resist them. It is important to recognize that there is a pivot point in every project when the leader and potential users grasp both benefits and drawbacks of the proposed change. Assuming the approach is sound, the individuals will at that point either choose to focus on program benefits and become program champions, or disown the program and become critics by focusing on the drawbacks and difficulties in implementation. At that point, the program must be “sold back” to the sponsor and the organization.

How can a program office or project team build executive support to increase the likelihood of executive support? The solution set is diverse and will vary according to each program's specific strengths and weaknesses. No cookbook approach exists—as we are not dealing with code or hardware, but rather people with varying motivations and aspirations. I have found one consistent technique that works extremely well in lowering leadership and user buy-in risks (and it is a well-established DoD best practice)—Integrated Product Teams (IPTs). The IPT model builds buy-in through the active involvement of the functional areas impacted by change.

IPT Background

Since its introduction by former Secretary of Defense William J. Perry in 1995, the DoD Integrated Product and Process Development (IPPD) methodology has been successful in promoting cross-functional solutions to difficult acquisition problems. The key component of this success has been the IPT as a multifunctional team that promotes information sharing and the production of deliverables that meet common goals.

IPTs, as you know, consist of structured teams that integrate acquisition activities from product concept through production/field support, and address acquisition processes ranging from strategy to planning to execution. (I have just described Overarching, Working, and Program IPTs respectively.) The advan-

1. Ensure top leadership drives the transformation.
2. Establish a coherent mission and integrated strategic goals.
3. Focus on a key set of principles and priorities.
4. Set implementation goals and timeline.
5. Dedicate an implementation team.
6. Use a performance management system.
7. Establish a communications strategy.
8. Involve employees.
9. Plan to build a world-class organization.

FIGURE 2. The Key Government Transformation Practices

tage of IPTs over traditional teams is the formal structure that encourages productive and concentrated effort. For example, formal IPTs have charters, assigned authority, and functional diversity.

The goal of an IPT is to operate as a collaborative team, identifying and solving problems as they occur and delegating responsibility as required to “get the job done.” Under the best of circumstances, however, the rigors of the program effort can degrade the effectiveness of IPTs. The stress of multiple personnel changes, aggressive timelines, software development difficulties, and frequent geographic dispersal cause the opera-

tion of IPTs to regress and reflect a more traditional staff meeting, with reporting and decision-making/task assignment not reflective of a true team environment. Once the slow slide in effectiveness begins, leadership support and stakeholder buy-in begin to erode, leading ultimately to the program's failure to achieve its objectives. Research shows over and over that the IPPD methodology is sound, but flaws in establishing or maintaining IPTs according to IPPD principles typically cause failure.

To address the issue, I led a project team at Altarum Institute in developing an IPT Development Methodology designed to establish or reestablish teaming efficiencies by drawing together best practices and proven methods for building and sustaining high-performance IPTs. The methodology focuses on eight conceptual critical success factors:

- Effective team leadership.
- Successful IPT initiation.
- Broad range of team member competencies.
- Shared vision among participants.
- Team member empowerment.
- Practice of teaming skills.
- Availability of enabling tools.
- Effective collaboration among IPT members.

We created a relationship between these eight conceptual critical success factors and 23 practical IPT development ac-



tivities that must be completed to assure a high-performance IPT. Taken together, the 25 activities form a checklist for monitoring the quality of an IPT's purpose, process, communication, and people.

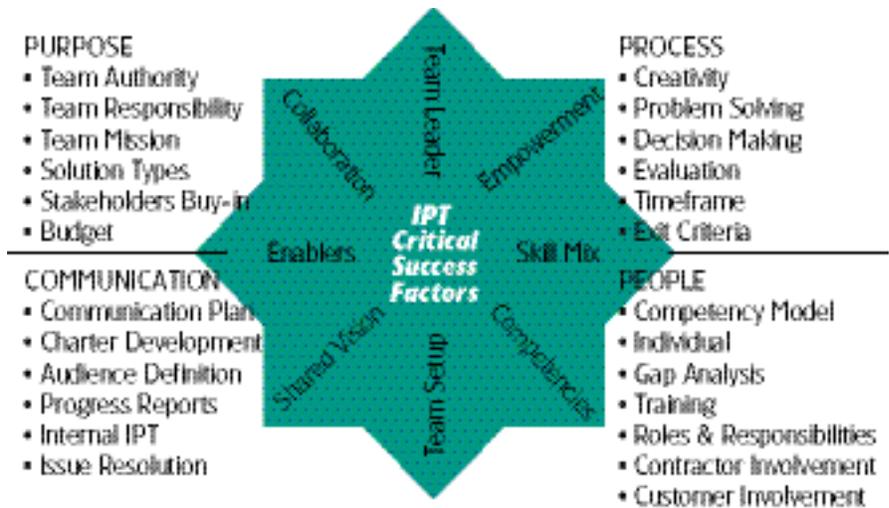
Figure 3 combines all the facets of the IPT methodology. Be aware that the methodology must be customized to take into account environmental and organizational issues for a particular acquisition program, and that the different activities are stressed based on the acquisition phase of the program. That said, the model works just as well for weapons systems acquisition as it does for IT acquisition programs.

Activity Grouping I: Purpose. The activities under this heading ensure that the entire team works toward a common goal, rather than multiple competing goals. After all, a team working at cross-purposes will fail to reach its objectives. The focus on purpose helps IPT members meet the critical success factors of shared vision, collaboration, and empowerment.

Recommended activities include development of a written charter, budget documents, performance outcome criteria, and documentation of the team's purpose. I recommend development of IPT charters with performance-based exit criteria that define deliverables even before the team begins its work. The methodology guidance also calls for regular progress reports to the chartering authority.

Activity Grouping II: Process. The goal is to create a process that keeps the IPT members focused on achieving results within a defined timeframe. Facilitators should be identified who can assist team members in developing and implementing performance expectations, standardized workflows, designated approval authority, and management-through-exception techniques. Often teams work without clear understanding of how best to take advantage of the different tools and techniques available to them; the techniques are identified and described through these activities.

FIGURE 3. IPT Development Methodology



Activity Grouping III: Communications. This set of activities ensures that information channels are established to provide immediate, accurate, and comprehensive information for IPT members and program leadership. IPT communication can include e-mail updates, standardized reports, internal progress reports, and team meeting minutes. Program leadership communication can include regular project communication, briefings, and document dissemination.

Activity Grouping IV: People. The training and cultivation of IPT members require careful consideration. A mix of perspectives, experience, and expertise is required among the members of effective IPTs. The IPT leader must continually evaluate stakeholder representation to assure both broad and effective team participation. IPT leaders need:

- A clear understanding of the skills and qualifications of their team members.
- A set of competencies against which the members are matched.
- A documented set of roles and responsibilities for IPT members.

In this area, structured activities such as assessment and action planning are used to assist the IPT leader in addressing weaknesses.

Case Study

An example of how the IPT methodology can turn around a struggling pro-

gram recently occurred within a government logistics and supply chain management organization. Six months before my involvement, an integration contractor assisted the organization in initial trials of a software program as an element of a major acquisition program. Despite the best efforts of technicians, trainers, change management agents, and help desk staff, production fell dramatically as soon as the application was installed, and would not budge from very low levels. I was asked to lead a team that would quickly evaluate the situation and develop a plan for improving productivity.

It turns out that the users had already documented hundreds of problems associated with the application, and the need for further evaluation of the *problem* no longer existed. Consequently, we made a quick course correction and decided to use the IPT Methodology as a framework for helping the user community solve the worst problems. Despite requests that we bring in technical experts to fix the software and coach users, we proposed and then implemented a four-step process involving the users themselves:

- Brainstorm quick “win” opportunities for improvement.
- Establish short-duration, problem-solving IPTs.
- Implement improvements identified by the teams.

- Report back on findings, including performance change.

To begin with, we brought the 35 initial users together to first, identify the top issues related to application implementation; and second, assign priorities to these issues. Next we asked for volunteers to form IPTs that would address the top five items, which included such typical implementation issues as access to historical data, topics requiring additional training, and status of trouble tickets. The volunteers were given simple ground rules—no meeting longer than 30 minutes, focus on changes the team can make—and then met several times to find a solution to the assigned issue.

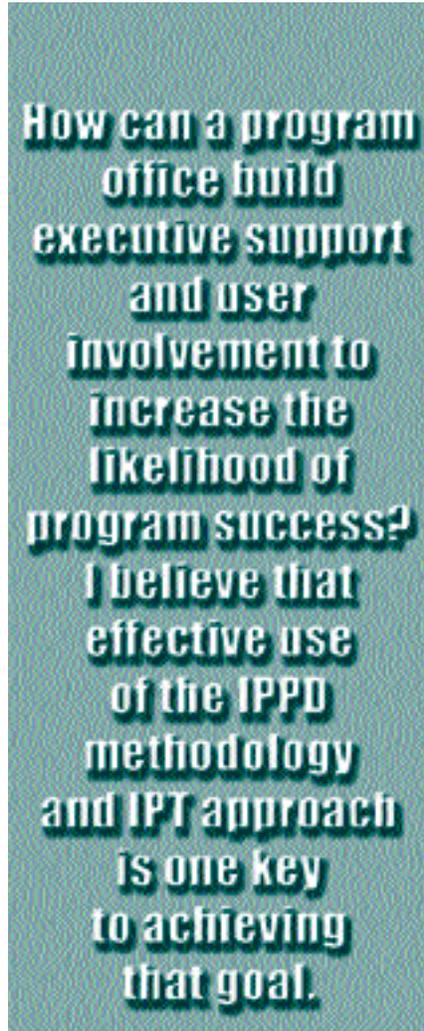
After a week, we brought the full team back together for report-outs. One team member from each IPT provided an explanation of the proposed solution with time for comment from the entire group. While many concept demo users remained skeptical of the process, a number were won over. Feedback comments included, “It’s great to hear that others are having the same problems that I am having.” We found that the greatest benefit came not from implementing the solutions themselves, but from providing users with a forum for discussion, an opportunity for team building, and a means of communicating effectively.

The users asked us to support the completion of a second round of IPTs, which addressed more complex issues. We did that, and left the group with the following set of tools for continuing the process:

- Action Item Database to identify future IPT issues.
- IPT framework to address the issues.
- Best practices documentation to communicate solutions.

Empowering Teams

I used the IPT methodology to empower the teams so they could effectively generate rapid improvements, implement a repeatable team-based process, begin efforts to establish a culture of team-



work, and provide a set of useful management tools to streamline activities. I expect that the IPT process will increase a sense of empowerment and shared vision for the user community.

How can a program office build executive support and user involvement to increase the likelihood of program success? I believe that effective use of the IPPD methodology and IPT approach is one key to achieving that goal. I recommend reviewing the formal guidance and supporting Web sites of the DoD sponsors, including:

- The USD (AT&L) Web site on systems engineering: http://www.acq.osd.mil/io/se/ippd/ippd_pubs.html.
- Interim Defense Acquisition Guidebook: <http://dod5000.dau.mil/InterimGuidebook.doc>.

- Defense Acquisition University Change Management: <http://deskbook.dau.mil/software/gen/overview.html>.

I also recommend that you implement IPTs with the goal of increasing participation in the acquisition process, including the following activities:

- Make the sponsor part of the team by selecting members in coordination with the sponsor and including formal and informal stakeholder influence. (One team, for example, might consist of the acquisition program manager, contractor project manager, and testing lead.)
- Gather information using interviews, observation, and informal conversation to understand team members and determine their views, values, and drivers related to the program, roles and responsibilities, and organization.
- Meet with the team to set program mission, objectives, and action plan. Establish ground rules for providing leadership and direction such as communication strategies, program oversight, and collaboration.
- Establish performance measures against which the decisions of the advisory committee and the program will be measured. Include process measures to gauge current status of effort and outcome measures to evaluate success toward reaching objectives.
- Consider executive coaching to assist in developing sponsor and advisory committee communication skills. The coach must be independent of the program office to provide objective, unbiased advice and feedback to the sponsor.

These and other techniques can be used to assist acquisition programs in reducing the risk of failure in a manner that the commercial world may someday emulate.

Editor's Note: The author welcomes questions or comments on this article. Contact him at david.haas@altarum.org.