



From the Acquisition Support Center Director

We begin 2007 by welcoming LTG Ross N. Thompson III to his new post as Military Deputy (MILDEP) to the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) and Director, Acquisition Career Management (DACM). I encourage you to read *Army AL&T's* interview with LTG Thompson on Page 4 of this issue. LTG Thompson comes to ASAALT after serving as the Army's Director, Program Analysis and Evaluation (PAE). Prior to that assignment, he was Commanding General, U.S. Army Tank-automotive and Armaments Command in Warren, MI. He also brings field experience from numerous command positions including the 45th Corps Support Group (Forward), U.S. Army Pacific Command, Schofield Barracks, HI. I am looking forward to gaining knowledge as he shares his vast experiences in Army acquisition with us. I'm ready to follow his focus and priorities as he leads our workforce. We wish LTG Thompson Godspeed as he begins his journey as our MILDEP and DACM. Together, along with our workforce, we will continue to resoundingly answer our Nation's call to duty — with boots on the ground — serving our Soldiers with courage, professionalism and compassion as they stand in harm's way while fighting the global war on terrorism.



Defense Acquisition Workforce Improvement Act (DAWIA) Update

Over the past several months, significant changes to *DAWIA* have brought policy modifications that you need to be aware of. I would like to clarify these changes and outline the work under consideration.

With significant amendments to *DAWIA* during FYs 04 and 05, it is now commonly referred to as *DAWIA II*. The amendments establish a single Defense Acquisition Corps, streamline obsolete or outdated provisions and provide greater management flexibilities for strengthening the professional acquisition workforce now and in the future. Additionally, an integrated management structure was created to implement policy guidelines and oversee acquisition workforce professional development, education, training and career management. This structure also features a Senior Steering Board (SSB) whose

members include Service Acquisition Executives and is chaired by the Under Secretary of Defense for Acquisition, Technology and Logistics. This management structure's working body is the Workforce Management Group (WMG), which is chaired by the Defense Acquisition University president and includes the service's Defense Acquisition Career Management leaders as its members. The WMG provides advice and recommendations to the SSB.

The current acquisition workforce focus is on critical acquisition positions (CAPs) and key leadership positions (KLPs). CAPs are not new, but the latest *DAWIA* requirements have significantly changed their designation. There is no longer a grade requirement for civilian CAPs. However, grade requirements for military acquisition positions remain unchanged, requiring all positions at the rank of lieutenant colonel and above to be designated as CAPs. Currently, there are approximately 9,000 GS-14 and above and military acquisition positions designated as CAPs.

Because of *DAWIA* changes, I am reviewing these positions and considering designating all acquisition General Officer (GO), Senior Executive Service (SES) and centrally selected list (CSL) positions as CAPs. Additionally, my proposal will include all GS-14 and GS-15 supervisor positions and GS-14 and above positions with significant acquisition authority or responsibility. With this change in CAP designations, the total number of designated CAPs should drop to just under 5,000 positions.

KLPs, a subset of CAPs, have been established to identify positions requiring special Army Acquisition Executive (AAE) and Defense Acquisition Executive attention with regard to qualifications, accountability and position tenure. KLPs require a significant level of responsibility and authority and are integral to the success of a program or effort. The Army is reviewing all key acquisition positions for potential KLP designation.

Currently, U.S. Army Acquisition Corps (AAC) KLPs include AAC GOs and SES acquisition civilians, program executive officers (PEOs), deputy PEOs, program managers and their deputies, senior contracting officials and centrally selected project and product managers (PMs), including deputy project managers of all Acquisition Category I and II programs. The AAE may designate other positions as KLPs as deemed appropriate. I want to ensure that there is good KLP representation from each functional area. KLPs may also include selected staff positions as well as any CAP that, by the criticality of duties, warrants special management attention to qualification

and tenure requirements. The Army KLP list continues to be a work in progress. When we have completed our efforts, the number of KLPs will likely total 400-500 positions. When the final designations take place, I will send out a memo to the workforce to keep everyone informed.

For more information regarding the Army's *DAWIA* implementation, please go to <http://asc.army.mil/info/dawia/default.cfm>. As additional acquisition career management policies are developed and/or updated, they will be distributed to the field and posted on the U.S. Army Acquisition Center Support Center (USAASC) Web site.

DCMA Key Billet Director Pilot Program

In July 2006, I signed a Memorandum of Agreement with the Defense Contract Management Agency (DCMA) to start a pilot program for selecting the best-qualified (BQ) candidates from both the military and civilian workforce for acquisition key billet director CSL positions. The program's goal is to align DCMA's BQ selection process with the Army acquisition PM selection process that allows Army civilians to compete on equal footing with their military counterparts on acquisition positions identified as BQ. This pilot program is a head-to-head competition with the best individuals being selected for two pilot positions at DCMA offices in Sealy, TX, and Minneapolis, MN. This is the first time all DOD civilians working for DCMA will have an opportunity to compete for key billet director CSL positions. Previously, competition was open only to the uniformed acquisition professionals. When we first created the pilot program, our intention was to open it only to Army and DCMA civilians. But when we had our plan legally reviewed by the Office of the General Counsel, they informed us that if we wanted the DCMA civilians to compete for these positions, it must be open to representatives from all services. This changed a good plan to a great one. USAASC Program Structures Division Chief Wanda Meisner agrees. "We really believe in this program. If we truly want to find the BQ individual, it should be opened to all services, wherein, the BQ individual will come out on top."

By opening the pilot program to all DOD civilians, other services' workforces now have the opportunity to apply for "command" positions. Also, it's good for Army acquisition because we will be getting the best and the brightest from throughout DOD, and if a civilian from another service competes and is selected, she/he will become an Army acquisition civilian. I see this program as a giant leap for us in the acquisition career development field and another opportunity for our workforce to give even better service to our warfighters.

"Five people have qualified, three of whom are from other services," said Cathy Johnston, Human Resources (HR) Specialist at the Army HR Command. "Acquisition is the only Army career field that competes civilians head-to-head with the military. I would like to see it [the pilot program] expand so that all of our [acquisition] positions are considered DOD-wide," Johnston offered.

Competitive Development Group (CDG)

If your goal is to become a PM, the CDG is a good place to start your journey. This 3-year program provides leadership training, professional development and the practical experience needed to successfully compete for PM positions. Also, it's one of the biggest tools used by acquisition leaders to find potential PMs. As with every goal, individuals wanting to become PMs must actively manage their careers. The most logical place to start your quest would be to work in a PEO or as an assistant PM. It takes a certain kind of a person to be a PM and encompasses hard work with the responsibility for cost, schedule and performance. It also takes motivation to ensure that you're tracking in the right positions and gaining adequate experience, education and training to be competitive, so when you go in front of the CSL Key Billet PM/Director Selection Board, you have gained the necessary tools to succeed.

There are many opportunities in place for you to get the cross-functional training needed to become a PM. I believe you need a "calling" to be a PM, and it's ultimately up to you to author your own success to achieve your goal. For more information on the DCMA BQ pilot program or CDG program, contact Wanda Meisner at wanda.meisner@us.army.mil, (703) 805-1025/DSN 655-1025, or Cathy Johnston at cathy.johnston@us.army.mil, (703) 325-2764/DSN 221-2764.

Noncommissioned Officer (NCO) Acquisition Workforce Program

The AAC, in conjunction with the Quartermaster (QM) Branch, created the NCO Acquisition Workforce Program, which allows QM NCOs in Military Occupational Specialty (MOS) 92A to voluntarily participate in the contracting program. Additionally, it clearly identifies the Army's need for enlisted Soldiers during contingency contracting operations. In support of Army Modular Transformation, we participated in a force design update to create a new modular contingency contracting force structure defining and formalizing the Army's requirements for contracting NCOs. These positions will be in contracting support brigades/principal assistants responsible for contracting offices, contingency

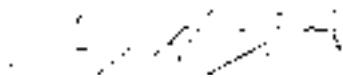
contracting battalions, senior contingency contracting teams and contingency contracting teams. These Table of Organization and Equipment units will be stationed worldwide and in every state and U.S. territory. The active force will be stationed at more than 30 different bases.

In addition to the force design update package, we simultaneously created an MOS classification structure proposal for contracting NCOs. The new contracting MOS 51C series for NCOs will be in the Active, National Guard and Reserve Components. The development and approval of a contracting MOS was the key component of the new modular contingency contracting force structure.

As a bridging strategy to the new modular contracting force structure, USAASC and the QM Enlisted Management Branch are filling the new modular contracting structure with NCOs from the workforce program. Additionally, we have selected some of those NCOs to be part of the first wave of Soldiers to reclassify into MOS 51C. After this initial reclassification, Soldiers from every Army branch will be able to request consideration for classification into MOS 51C Contracting.

For more information about the NCO Acquisition Workforce Program, contact MAJ James Bamburg at (703) 805-2732/DSN 655-2732 or james.bamburg@us.army.mil.

In closing, I would like to wish the acquisition workforce a very prosperous and successful 2007. I'm looking forward to your continued professionalism, sacrifices and strong sense of duty in supporting our warfighters as they strive to make the world a better, safer and more peaceful place. Thanks for your unconditional support. I am extremely proud to serve with you.



Craig A. Spisak
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Financial Management — External

COL John D. Burke

Project managers (PMs) who aren't managing their money aren't managing their programs. The long-term success of a program requires impeccable integrity and, in the case of financial management, the program office should seek nothing short of the best reputation.

Government programs are financed through a starting checkbook balance each fiscal year provided through congressional appropriation. Through the legal authorization, funds flow vertically to the Office of the Secretary of Defense (OSD), the Army, the Program Executive Office (PEO) and, eventually, to the project and into specific budget lines. PMs are beholden to each of these levels for the integrity of their budget and program execution, as the approved budget is a de-facto contract for a certain performance over the funding period.

This article is the first of two on program financial management. Using the internal and external views, I will discuss how outside agencies and other factors affect a program's business processes. The second article in an upcoming edition of *Army AL&T* Magazine will be concerned with the internal management of program resources.



The AH-64 Apache helicopter has earned an enviable reputation as a positive attitude program because of its battle record in combat and its affordability and reliability as an aviation weapons platform. Here, Soldiers from Delta Co., 1st Battalion, 101st Aviation Regiment, perform maintenance on an AH-64D Apache at Contingency Operating Base Speicher, Iraq. (U.S. Army photo by Alfred Johnson, 55th Signal Co. (Combat Camera).)



The SINCGARS radio program is a shining example of PMs effectively combining positive program attitude with efficient production. Here, a U.S. Army Reservist with the 321st Psychological Co., Cleveland, OH, prepares his SINCGARS radio for field use. (U.S. Army photo by SSG Jim Downen Jr., Michigan Army National Guard.)

My previous article on practical project management (*Army AL&T Magazine*, January-March 2006) described ideas on project leadership. Similarly, a strategy and program plan of three to five years should have the equivalent for financial management. The program's financial plan may be in several dimensions and three are offered below. What is important is how the program will be perceived vertically by the fiscal and programmatic chain of command.

Selecting or Determining a Program Financial Strategy

A PM may choose a program management approach as being the *most efficient user* or best value of Army funds measured by return on investment (i.e., products divided by dollars). This technique uses the idea that the department (DOD or Army) will fund and continue to invest in the lowest-cost, highest-productivity programs because the demand is increasing. Your program becomes the Toyota Camry or Honda Accord of defense program management.

Another approach is to spend the available fiscal resources until funds expire and then request the benefactor (chief sponsor) to find more money to *finish the job*. This is similar to a college student using a year's worth of allotted money and in the third quarter asking his or her parents for more money to finish out the year; the student knows finishing the college degree is the sponsor's strong desire.

A third alternative, especially for very large acquisition category (ACAT) 1 programs, is the approach of using the *weight and political influence of industry* to fight for budget at the OSD and congressional levels. The political influence strategy explicitly depends on a long-standing mutual agreement

between the government and industry to work all elements of the program in lock-step from requirements, program planning, service Program Objective Memorandum (POM) build, and congressional influence and language.

These three strategies can be done singularly or in combination. I recommend the first — becoming the best-value and most efficient user of the department's funds. The main financial question a PM should ask is, "What strategy do I plan to employ or what strategy seems to already be in place?" Determining which approach will work best will strongly depend on deciding how to assess and adjust the program's financial attitude.

Assessing the Program's Heading and Attitude

An aircraft flight profile is measured in six degrees of freedom, one being the aircraft attitude (nose-up or nose-down). Similarly, a PM can also assess a program's attitude in three ways: positive, neutral or negative.

A *positive attitude* program is characterized by a broad constituency of users, leaders and public perception, including Congress, where there is known pent-up demand for the product. One could say a program with positive attitude is on the *offense*. Another indicator is the inflow of new uses and applications, new users and perhaps other services' requests to join the program. Being a politically favored program over the long term has the advantage of being able to exercise latitude in adding or aligning requirements resulting in a positive inflow of funds. Other organizations will volunteer to co-fund initiatives. The PM's goal is to determine how to preserve the positive interest through multiple budget cycles.

Neutral attitude (straight and level flight) programs are those in balance of cost, schedule, production, sustainment and product improvement. The PM's first challenge is to keep a smooth running project from turning a neutral attitude into a negative program attitude. This can happen insidiously by letting cost increase to the point where product quantity decreases and, in turn, drives up the average unit cost. The upside challenge is for the PM to prudently add product improvements or cost-reduction initiatives, turning the nose up and setting a path toward positive attitude.

Programs in *negative attitude* have the toughest time preserving their funding. These programs are on the *defense*. A cynical phrase in the Pentagon is that "no ACAT 1 program stays fully funded two years in a row." Falling out of favor can happen for pragmatic or emotional reasons. These reasons include losing



The *weight and political influence of industry* strategy lines up best with very large defense programs of which the M1 Abrams is a part. Here, 11th Armored Cavalry Regiment Soldiers unload and stage an M1A1 Abrams tank for combat operations at Camp Ramadi, Iraq. (U.S. Marine Corps photo by CPL Richard A. Hilario, 3d Marine Air Wing.)

the program champion, core technologies failing to mature and experiencing major changes in requirements. In addition, if the program timeline stretches out too much as alternative solutions become available, it causes a reexamination of the program's overall benefit. A program is in financial negative attitude when it has to keep "going to the well" to either OSD or Congress for financial protection.

Aligning Program Strategy and Its Attitude

The three examples of program strategy techniques, combined with an assessment of the program attitude, enable a way to check the alignment of both toward success.

A *most efficient user* strategy works best with the positive attitude, enabling the PM to gain a trusted relationship with the department. The PM is meeting or exceeding the contract established in the program budget submission and likely being given more funds to produce more output. The combination of efficiency with a neutral attitude indicates a situation where you are the low-cost producer, perhaps within DOD.

The *finish the job* strategy works with a positive program attitude if your champions will continue to use their influence to help obtain funding or protect the program during schedule or cost adjustments. Unfortunately, when your champions leave, the leverage to finish the job disappears too. Even with a strong champion, the goodwill runs out after a couple years of shake-downs with the fiscal reputation ceasing as well.

The *weight and political influence of industry* strategy lines up best with very large defense programs with hundreds of billions of dollars. Add to the size of the program budget the dozens of key subcontractors and a program has the leverage

of industry to bolster congressional support. This strategy balances congressional influence and the negative press, investigations and Government Accountability Office (GAO) reports that always accompany the largest defense programs. Neutral attitude programs under long-standing production contracts may take this approach to expand business base.

PMs should set their sights on the combination of a positive program attitude and being the most efficient product producers. Evidence of success using this combination is seen in program examples such as the Black Hawk and Apache helicopters, the F-16 fighter aircraft, Single Channel Ground and Airborne Radio Signal (SINCGARS) radio, the M1 Abrams Main Battle Tank and the Army Unmanned Aircraft Systems programs.

External Financial Metrics and Recurring Reports

PMs should conduct a financial intelligence preparation of the battlefield (IPB). The sources for the IPB are external reviewers, auditors, congressional budget marks, formal queries and reports on their program. This reference book has to exist, otherwise the PM is dependent upon the project office to have the institutional knowledge to answer inquiries made by professional staff with years of history and experience.

The IPB financial book should contain:

- The three previous years' program Procurement and Research, Development and Test and Evaluation (RDT&E) form (P and R Forms) charts, available from the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT). PMs should analyze trends in the congressional marks and read the published formal inquiries predating those marks.
- Information that is free of congressionally restrictive language and requests for DOD or service reports on the program. An example would be, "By 1 February the Secretary of Defense shall provide to Congress a report on the unit cost increases of program X."
- GAO, DOD Inspector General (IG), Cost Analysis Improvement Group (CAIG) and Army Audit Agency reports on the program.
- Reports or articles by Federally Funded Research and Development Centers, such as RAND or MITRE Corps., prepared by direction of the Army or OSD.

The PM should convene a focus group *led by the* PM including the program office business division leadership, contracting officer, representatives from the Army Budget Office, Assistant Secretary of the Army for Financial Management,

ASAALT systems coordinators, G-8 and G-3. If a specialized program, the PM should add the sponsoring activity, such as an intelligence program where the G-2 is the chief proponent. This focus group's purpose is to understand and timeline the key measurements and to provide program financial assessments. Some examples are:

- When are initial, midyear and end-of-year reviews?
- How are obligation and disbursement rates assessed?
What are the HQDA goals for the fiscal year by month?
What is our plan to get ahead of those goals?
- What reports are due to OSD and Congress this year on the program? Who and how will those reports be prepared and what program input will we be providing?
- What are the POM and Army congressional engagement cycle key dates?
- How did the program finish up the previous two fiscal years? Has the program experienced a positive, neutral or negative attitude? Who are the champions and who are the disadvocates?

Building the Project Financial Statements

Using the above financial IPB and information gathering, the PM, in combination with the business division chief, contracting officer and product managers, should be able to build a synchronization matrix for the next two to three fiscal years.

The synchronization matrix should show the key program financial events by event and time, and by product and type of funds — such as Other Procurement, Army; Aviation Procurement, Army; RDT&E; Operations and Maintenance, Army; science and technology; or global war on terrorism. It should also indicate when those funds by amount are

expected to be infused into the program. This will now be the basis for financial anticipation.

More rows should be added to include the congressional engagement calendar, OSD- and Army-required reports, OSD and Army formal reviews, key program assessment dates (initial, midyear and end of year) by the various agencies and historical inquiries by the CAIG, GAO, DOD IG and others. Even if these dates are later moved, you'll have those identified and can anticipate their occurrence.

Lastly, I recommend the PM direct the business division to prepare a cash-flow statement for the project office beginning with the end of last fiscal year's balance, the 1st quarter appropriations, the expected 2nd through 4th quarter inflows, and the month-by-month outflows of the program funds based on the contracts and delivery schedules (*DD Form 250*). The cash-flow statement should reflect, over the 12-month fiscal year, the execution of the synchronization matrix.

A test of the cash-flow statement will also be a check and balance of whether the program is either deliberately or by default using a certain program strategy and will assess its program attitude. For example, if we received two midyear additions for 50 systems and \$100 million because of a new user request with unit cost dropping, then the program is a *most efficient user — positive attitude program*.

External Financial Management Sets the Internal Operating Functions

Army PEOs and PMs are chartered by the Army Acquisition Executive (AAE). Through the charter, they are responsible to the AAE, and perhaps OSD, with congressional oversight. Having a thorough understanding of the external influences, timelines and interests of those higher-level agencies sets the stage for the program's operation.

A PM with a long-term view must understand and acknowledge or change the program's financial strategy and attitude. A mismatch of strategy to attitude will initially result in loss of funds and eventually cause the program to fall into disfavor. The PM is charged with the responsibility to ensure proper alignment of strategy and attitude toward the project's success. Creating a program financial IPB and synchronization matrix illustrates the external factors affecting the program, so the PM can notify the external chain of command where adjustments should be made.

A program with a harmonized strategy and attitude, combined with a synchronized and executable plan, will earn the



The Army's Unmanned Aircraft Systems programs are a good example of combined positive program attitude and efficient production. Here, Soldiers from 2nd Battalion, 7th Infantry Regiment, 3rd Infantry Division, prepare a Raven for a surveillance flight near Tikrit, Iraq. (U.S. Army photo by PFC Matthew Acosta.)

program office the desired reputation for integrity and financial acumen all the way up the chain of command.

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Managing Customer Requirements for Services and Skilled Personnel

Harlan Black

In my previous article (*Army AL&T Magazine*, October-December 2006, Page 75), I presented the approach the Communications-Electronics Life Cycle Management Command's (CELCMC's) Software Engineering Center (SEC) is taking to incorporate best business practices through Lean Six Sigma (LSS) and the Capability Maturity Model Integration® (CMMI). I discussed Requirements Management (REQM) and presented its goals and specific practices. I then presented resolutions of issues that surfaced as people in SEC began writing REQM plans for projects that provided *products* for their customers. This article will discuss REQM planning for providing customers with *services and skilled personnel*. I will conclude this article by explaining the relationship between CMMI and LSS.

REQM Plans for Services

Let's say ABC Corp. is developing software for the government through Program Manager (PM) XYZ. The PM wants an organization to monitor this contract for them. Again, requirements are *whats*, not *hows*. Here the organization has a customer (the PM) who wants it to provide a service, or to *do* something, not to *make* something. The organization must therefore document how it plans to do the following:

- Obtain an understanding of what the customer wants it to do.
- Obtain a commitment from the project team to do it.
- Manage changes to what must be done during the ongoing work.
- Maintain traceability from what the organization was asked to do with what it is actually doing.
- Identify and resolve inconsistencies between what must be done for both project plans and what is being done.

Note that I omitted the need for bidirectional traceability. I'll speak about this soon. Now, let's say that part of the monitoring job is to ensure that ABC implements the PM's requirements in the software that they are making. Here we have some requirements. Do they need to be managed? Do they belong in an REQM plan? Definitely. But in whose plan?

Unless the PM asks the organization to manage these requirements, they don't belong in the REQM plan. Instead, they belong in the contractor's REQM plan because it is the contractor who is implementing these requirements in the software that it is making for the customer. Now, if the contractor's REQM plan is a contract deliverable, then the organization will be evaluating the plan as part of what it is supposed to be doing. However, if it's not a deliverable and if the ABC contract does not specify how to manage the software development effort, then the organization may never see it.

And if the organization asks the contractor to provide an REQM plan, then it is asking the customer's contractor to do something that it is not under contract to do. Guess who may get angry when it gets billed for a document that its contractor wrote? Now let's assume that the organization has a standing operating procedure (SOP) document that describes how one should monitor a customer's contract. It talks about things like forming a monitoring team, the ratio of team leaders to members, a management hierarchy and frequency of team meetings. Does the SOP belong in the organization's REQM plan?

Again, remember that a requirement is a *what*. The *what* is to monitor a contract. Ensuring that the contractor implements customer requirements is part of monitoring the contract. This sounds more like a *what* rather than a *how*. Certainly, the SOP



The CELCMC SEC is using LSS to identify and eliminate waste, while also reducing variances in production. Likewise, the SEC is using CMMI to define process areas and define the corresponding goals for each process area. (*Army AL&T Magazine stock photo.*)

belongs in the organization's REQM plan if the PM identified it to be followed, just like we said earlier about the coding guidebook. But does it have to be in the organization's REQM plan if the PM didn't specify how to monitor the contract?

Let's take a second look at a service project. Are customers interested in their supplier being busy doing something or are they really interested in the effect that will be produced? I suggest the latter, even if the customer is billed for time and materials. Let's look at another example to see how this makes a difference. Let's say that you are having your house painted. Ajax Painting Inc. shows up at the door, gives you its song and dance, and asks you to sign a contract. It has a blank area where they fill in your address. It has another blank area where it describes the work they will do. The salesman fills it in with the following: "Ajax Painting Inc. will paint the above-mentioned house for the price of \$3,000, payable upon completion." Ready to sign? No way! How many coats will they put on? With what quality paint? Are they going to clean and prime the surfaces before applying the paint? Can they let paint get on the glass of your windows? Will they clean up afterwards? This Ajax contract lacks sufficient clarification. You rightfully complain, and the salesman asks whether he can come back tomorrow with a better contract. He shows up the next day with a handtruck full of documents. He has everything possible that can be documented. Sure thing, the number of coats are specified, the paint brand, a substitute in case it's not available and a substitute for the substitute. And it contains the procedures you are expected to support in case his employee gets stung by a hornet. So part of the contract reads that you must allow the painter to use your phone to call for medical assistance, should he need to. You decide to look for another painter.

Now let's get back to the contract monitoring SOP. If it's not in the agreement that was made with the customer, then it's actually not the customer's requirement. Instead, it's the supplier's way of clarifying what the customer's requirement means. Indeed, some of the things in the SOP may have belonged in the agreement, and the experienced customer would have written them in. But at least some of whatever is in the SOP but not in the contract can be viewed as being a clarification of the *what*. Unlike design documents for software products, most of what is in the SOP has direct significance to the customer. It's therefore a good idea for suppliers to reference the SOP in their REQM plan. The more clarification provided in the plan, the higher its quality will be.



The author contends that it makes sense for service-related projects to mandate a one-way checklist from customer requirements to actual work completed. (Army AL&T Magazine stock photo.)

Now remember that we did not include the need for bidirectional traceability for services. This makes sense because the requirements are fulfilled by activities, and they are not always tangible "things." If we needed to trace everything that was done back to customer requirements, then how and where would we maintain the list of activities that we did? Should we require all service practitioners to keep a diary and trace every line backwards to customer requirements? Perhaps one would suggest that it belongs on the customer's bill. Frankly, if we start documenting every activity on customer bills, then we may lose customers who don't appreciate receiving a truckload of paper every time we ask them for money. So, it makes sense to mandate a one-way checklist, from customer requirements to work done. Indeed, this is all that we require for service-related projects.

REQM Plans for Providing Skilled Personnel

Finally, an organization may provide customers with professionals who have certain skills and experience. This can be viewed as a special case of a service, as customers are asking their suppliers to hire and support personnel. Or, this can be viewed as an entirely new category, somewhat of a hybrid between a product and a service. Regardless of how this is classified, the *what* is a person who meets the specified skill requirements and has the required experience that the customer asks for. It is also the support services that will be provided. Typically, these are the only customer requirements that must be managed. Now, let's say that the customer needs an engineer to help develop software. Does the engineer need to write an REQM plan for managing the customer's software development process requirements? The answer is that it's entirely up to the customer. The customer owns the process for the software development effort, not the organization that provides personnel.



Managers may designate a project as either a product or service. However, the project's requirements must meet customer needs. (*Army AL&T Magazine stock photo.*)

As stated earlier, an organization can only be expected to manage the requirements of processes that it owns and controls. The engineer should certainly suggest to the customer that this be done as a best practice. However, this is the extent of the supplier's involvement with respect to managing requirements within the customer's own development shop, unless tasked by the customer to do otherwise. The organization must document how it plans to do the following:

- Obtain an understanding of type of personnel the customer wants and the support that is required for the personnel.
- Obtain a commitment from the personnel and its support team that they can perform the work.
- Manage changes to customer personnel and support needs during the ongoing work.
- Maintain traceability from personnel and support requirements to personnel assignments and provided support.
- Identify and resolve inconsistencies between customer personnel and support requirements to project plans and personnel assignments/support.

Is It a Product or Service?

Managers may designate a project to be a product or service. However, one must manage requirements according to customer needs, not management designations. Does the customer want requirements to be transformed into a tangible "thing" that is the main deliverable? This sounds like a product.

Note that the supplier will need to do things to provide the product. As stated earlier, unless the customer asked for them to be done, they are not customer requirements that need to be in an REQM plan, although they may belong in another type of plan. Furthermore, the supplier may be asked to perform some services that are associated with the product, such as to install the software that is being made. So while the overall project can be classified as a product, it may contain some service requirements that must be managed.

Now, what if the customer is basically interested in having an effect, such as his house should be painted in a timely and high-quality manner? This sounds like it should be classified as a service. After all, one pays someone to have a house painted, not simply to have paint. Here's a third possibility. The Sherwin-Williams Paint Co. goes into the business of painting houses. They provide not only the effect that the customer wants but also the product that makes it happen. Our organization has an entire directorate that does something like this for a class of Army software. They prefer to view their projects as products/services.

Connecting CMMI and LSS

The SEC is using both CMMI and LSS to improve its processes. CMMI defines process areas and the goals for each process area. It also suggests specific and generic practices for achieving them. For example, here are the process areas at Level Two:

- REQM
- Project planning
- Project monitoring and control
- Supplier agreement management
- Measurement and analysis
- Process and product quality assurance
- Configuration management

Keep in mind that LSS is the application of techniques to identify and eliminate waste and to reduce variance in production. It is the *how* of a high-level requirement, which is to provide better products and services both faster and cheaper.

While CMMI is also a *how* of the better-faster-cheaper requirement, it is also a *what* at the implementation level because it specifies the minimum of that which needs to be done. At the implementation level, LSS becomes the *how* for that which needs to be done. Our organization began putting the above into practice by first using CMMI to re-define its processes. With processes that are now infused by industry's best practices for software engineering support, we are coming up to speed in LSS to optimize them.

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