Introducing the Department of Defense Acquisition Best Practices Clearinghouse

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This new capability will help acquisition personnel identify, select, and implement validated practices according to their programmatic needs.

Acquisition best practices are much like medicines. They are indicated for certain problems and provide specific benefits. They can sometimes be harmful if used improperly, in combination with other practices, or in the wrong situation. Practices take differing amounts of time to produce their benefits. There can be various levels of certification or caveats. There are usually specific instructions (like dosages or usage information). There is definitely a cost to be weighed against the benefit. And, finally, even with best practices, you sometimes need different levels of expert advice to help select and implement them.

What if choosing a practice were more like choosing a medicine? You could make your choice based on your needs and reliable information. To do this, practices would need to be described like medicines – in a uniform, brief way so that you can compare information and make educated choices without reading a ton of material. Medical information is backed up by a lot of studies, clinical trials, approvals, and usually, good science – but you do not need to check out all that research. Of course, if you want some additional information, your pharmacist, doctor, or favorite medical Web site probably can provide all the nitty-gritty details you desire.

This is exactly the approach taken by the Department of Defense (DoD) Acquisition Best Practices Clearinghouse (BPCh). It will provide brief, useful descriptions of practices and their characteristics based on carefully analyzed data. Users can access the information according to their preferences and needs. The BPCh will also provide the trail of evidence used to establish the characteristics

as well as advice on where to find out more detailed information. With this information, users can answer a wide range of questions such as the following:
*   Where can I find measurement practices that will work for my program?
*   How do I find out if the accelerated life testing practice my friend recommended is useful or just hype?
*   I want to add inspections to improve my software quality. Are they worth the cost and if so, what is a good first step?

> *"The BPCh comprises an integrated set of processes, tools, data, and people that maintain a continuously improving resource of best practices information ..."*

*   I have taken over an acquisition program just after milestone B. What practices should I look for in my contractors?
*   Our organization is implementing the Capability Maturity Model® Integration (CMMI®) Acquisition Module. What practices should I implement to satisfy the project monitoring and control goals?
*   What practices can help me meet the Office of the Secretary of Defense's (OSD) new policy on system engineering plans?

Sponsored by the Defense Acquisition University (DAU), the assistant secretary of defense for Network and Information Integration, and the under secretary of defense for Acquisition, Technology and Logistics (AT&L), the BPCh will be a single source for identifying, selecting, and implementing validated acquisition-related practices based on specific program needs. The Fraunhofer Center at the University of Maryland is developing the concept and processes, Northrop Grumman Information Technology will build the operational system, and DAU will host and continue to evolve the capability as an integrated part of OSD's knowledge-sharing systems.

The BPCh comprises an integrated set of processes, tools, data, and people that maintain a continuously improving resource of best practice information that is readily accessible via a wide range of methods. Figure 1 shows its operational architecture, roles, and four basic processes: Best Practice Contributions, Best Practice Handling, BPCh Usage, and BPCh Operations.

The *Best Practice Contributions* process provides a way for users to nominate practices for inclusion in the BPCh, or to provide additional data on current BPCh practices.

The *Best Practice Handling* process is what makes the BPCh special. It distills information about practices – lessons learned, research reports, measurement data – into a practice profile that is easy to understand and work with. Of course, connectivity to the source material is preserved. Once created, these profiles are maintained in a repository and serve as the basis for recommending and selecting practices. This process includes five primary phases:

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- **Identification.** Best practice suggestions are submitted by information providers as studies, lessons learned, or other data. Leads will be collected, reviewed, categorized, consolidated, and prioritized into a continuously updated ranked list of candidate practices.
- **Quantification and Qualification.** The highest priority candidate practice is investigated to gather more data, build stories, and generate more detailed practices if appropriate. This results in better defined candidate practices ready for characterization. Practices may be tabled until more information is available.
- **Analysis and Synthesis.** This step defines the practice profile attributes, builds a business case, and captures any interrelationships with existing practices. The result is a practice package.
- **Validation.** The set of practice packages is reviewed by a panel of experts in the relevant topic. Approved practices move on to the next phase. The panel may, however, send packages back to previous phases.
- **Packaging and Dissemination.** The validated best practices are published within the BPCh repository, simplified implementation guidance may be developed, and information about the practice may be communicated to users via a wide range of media.

A recommended practice must successfully pass through the Best Practice Handling process. Initially, there will be a number of valuable practices with insufficient data available to pass. There will also be new practices identified that may be promising enough for the BPCh to maintain information about, but not necessarily recommend to average programs. For these reasons, practices will be characterized at a number of recommendation levels. It is also possible that practices may be identified as *to be avoided* under specific conditions.

The Fraunhofer Center is developing processes and tools to support Best Practice Handling. The National Defense Industrial Association, International Council on Systems Engineering, and Software Engineering Institute, along with academic and defense organizations, will support both Best Practice Contributions and Best Practice Handling processes.

BPCh Usage is the process that helps users identify and access information about practices. Much thought is going into the usefulness and usability of the BPCh, particularly user access to its content. There will be numerous ways to
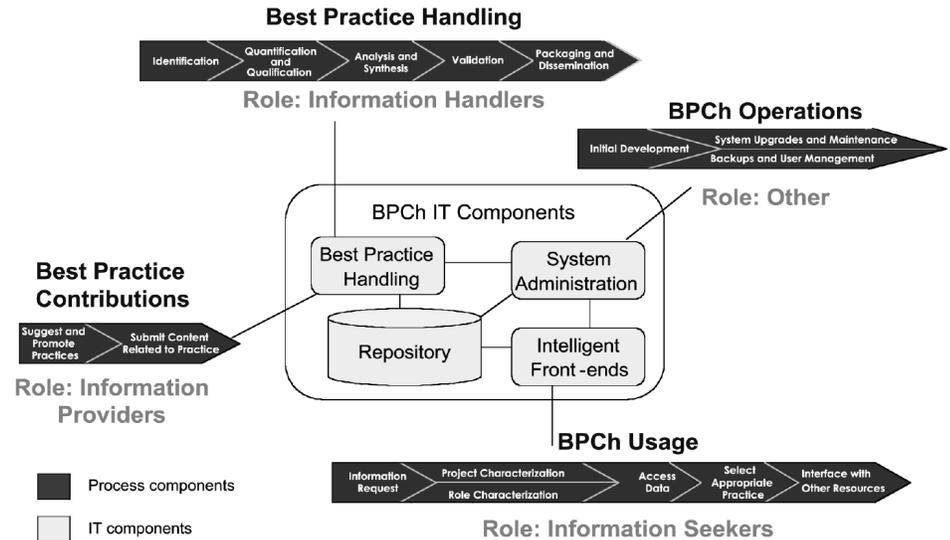

Figure 1: *Best Practices Clearinghouse Components*

locate practices, including searching and browsing. A number of search methods, simple and complex, will be provided. Multi-viewpoint browsing will let the user look at practices organized in the way that is most useful to them. Examples of viewpoints include the following:
- DoD 5000 program phases and milestones.
- System Engineering Plan sections.
- CMMI structure (staged and continuous).
- Discipline (e.g., systems engineering, software acquisition).
- AT&L functions/topics (e.g., program manager, source selection).
- Program risks.

Due to the diverse nature of user styles and information needs, the BPCh will allow users to maintain user and project profiles that can be used to filter the practices presented and tailor agents that notify the user of changes in the repository or other BPCh events.

The *BPCH Operations* process ensures the infrastructure required for the BPCh to operate is maintained. With DAU operating the BPCh, it will be closely coupled to the DoD acquisition knowledge infrastructure with access both to and from the AT&L Knowledge Sharing System, "Defense Acquisition Guidebook," Acquisition Community Connection, and other knowledge communities, as well as DAU's Learning Asset Repository. Information on these can be found at <http://akss.dau.mil> and <http://acc.dau.mil>.

An initial BPCh prototype is being demonstrated at the April 2005 System and Software Technology Conference in Salt Lake City, Utah. An advanced prototype for limited operational evaluation is scheduled for demonstration at the NDIA Systems Engineering Conference in October 2005. Full online system operation and public access is planned for fall of 2006.

The development team is working closely with user groups to capture scenarios and identify the most useful information content, functionality, and access and display methods. The more potential users who provide input, the better the interface will be. If you are interested in participating in a user group, as a user, or as a practice provider, please contact the project at <BPCH@fc-md.umd.edu> or <http://acc.dau.mil/bpch>.◆

Visit Us at SSTC

Stop by the BPCh booth No. 118 at SSTC 2005 and try out the prototype. Your feedback will help make the BPCh a more useful and usable tool for your needs.

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