

# Air Force Institute of Technology

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*Educating the World's Best Air Force*



**U.S. AIR FORCE**

## Improving Software Acquisition Education & Training

Maj Christopher A. Bohn, PhD, CSDP  
*et.al.*

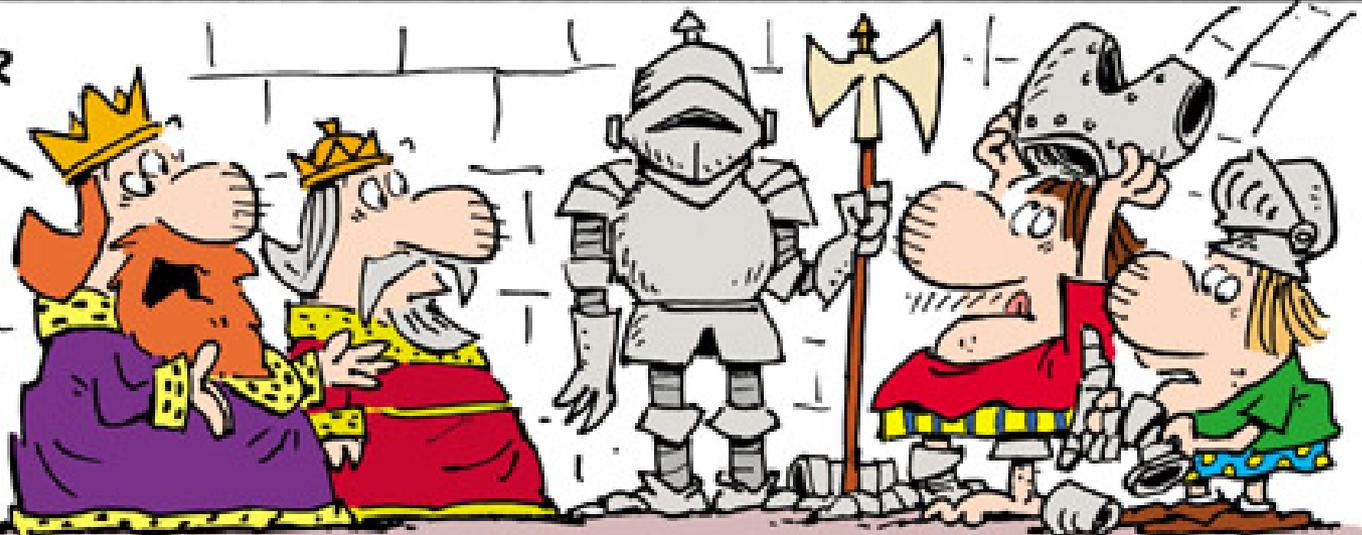
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*Strength Through Education*



**AFIT**

OH, THE ARMOR  
IS STATE OF  
THE ART---THE  
TOUGH PART  
IS FINDING  
DECENT  
SOFTWARE.



E-mail: mail@frankrasmussen.com  
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THAVES 11-23

Improving Software Acq





# Overview



- Who are we?  
Why are we here?
- Where we were
- Where we are
- Where we're going





# The Working Group



- Coordinate & harmonize software acquisition workforce improvement efforts of the individual services & OSD-ATL as they pertain to education & training



*Software in Acquisition Worksnop*

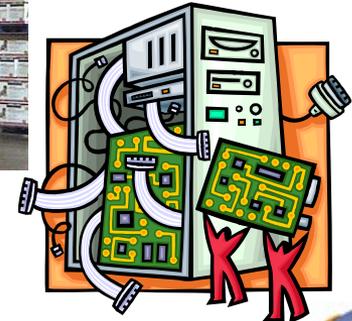
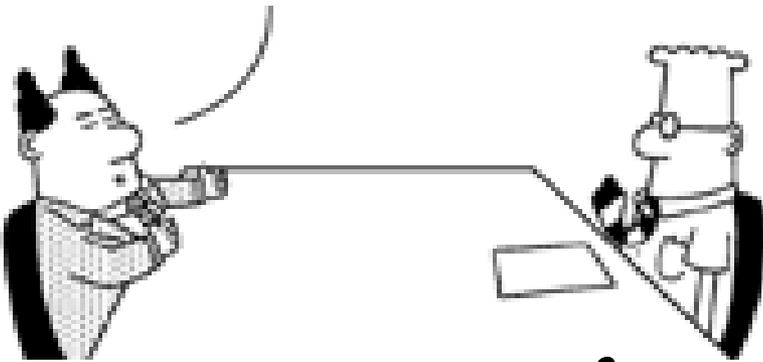




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# Previous Efforts



- SMRT report (SAMEWG)
- Individual services (e.g., AFSSIP, SPII)





# Navy's SPII



- For each discipline
  - Determine required competencies/knowledge
  - ID available education & training
  - Determine sufficiency / necessity / gaps
- Started with PM





# Navy's SPII



- Short-term mandated courses
  - SAM 101
  - SEI CMMI
- Push-back from field





# What we've done so far



- SATEWG kickoff meeting – Aug 08
- “Formed”
- Reviewed past & recent past
- Developed plan of attack
- “Storming”





# Example Competencies



Microsoft Excel - PM Competencies 20070920 [Read-Only]

File Edit View Insert Format Tools Data Window Live Meeting Help Adobe PDF

Arial 22 B I U

A1 Program Management Competencies

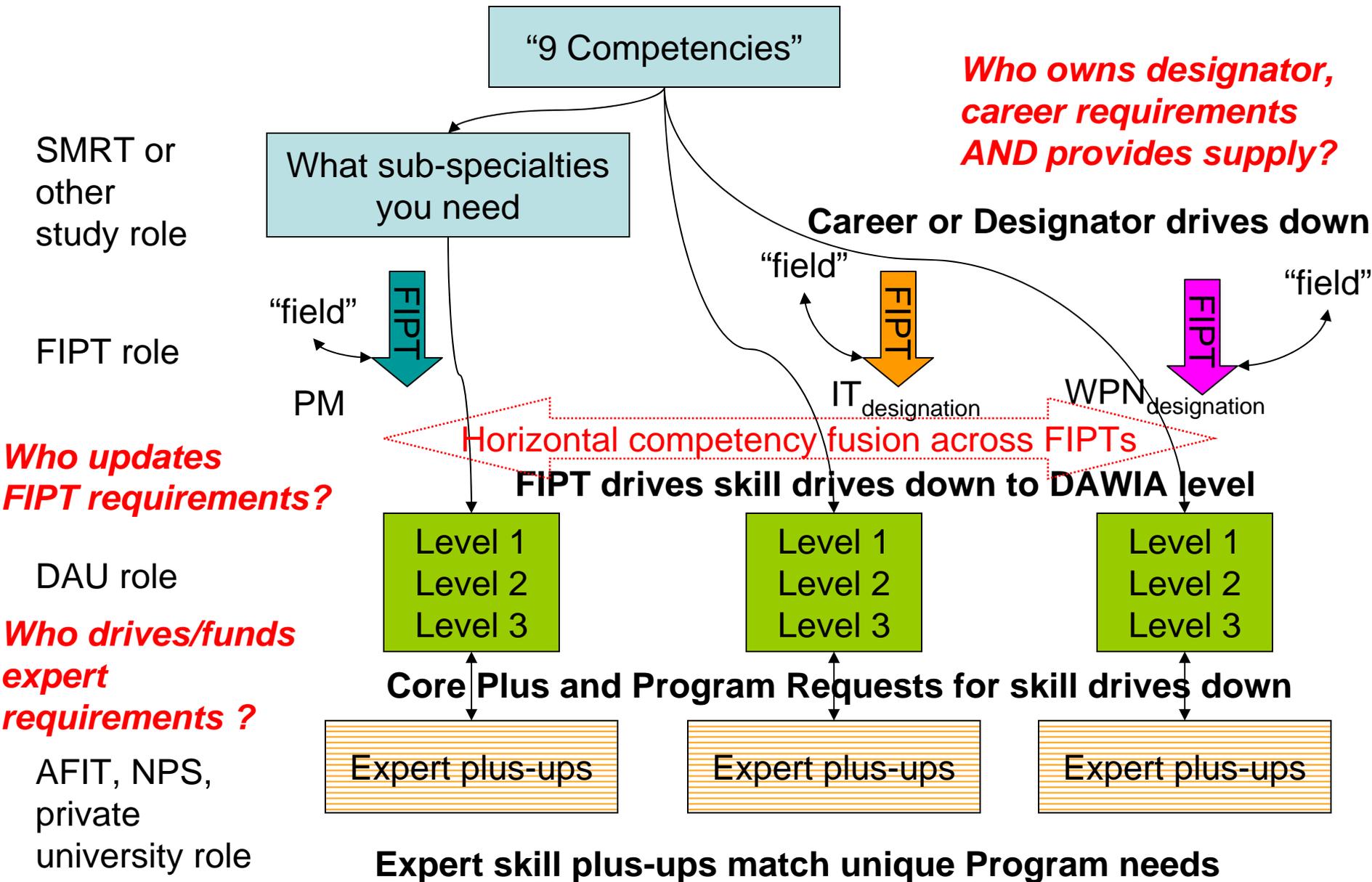
Program Management Competencies					
Level I					
Sub-competencies	Level I			References	
	Generalists	Experts	Courses that cover this competency	Source	Comments
21 Describe the program manager's role in managing architecture products and documentation.			SAM 101, CLE 020, SYS 101	DAG Chapter 4	
22 Identify and describe basic principles of technical standards as they relate to system development and interoperability.			SAM 101	SAM 101	
23 Identify interoperability terminology, the importance of planning for interoperability in a [Software] acquisition strategy, and the conceptual components of a [Software] system architecture; and demonstrate the relationship to interoperability.			SAM 101	SAM 101	
24 Describe the software Architecture/reuse relationship			SYS 101	SMRT, AF GSAM	
25 Describe risk mitigation through reuse			SYS 101	SMRT, AF GSAM	
26 Identify reuse guidance			SYS 101	SMRT, AF GSAM	
27 Describe domain specific reuse paradigm			SYS 101	SMRT, AF GSAM	
28 Identify existing Reuse repositories			SYS 101	SMRT, AF GSAM	
29 Describe contracting mechanisms for reuse			SYS 101	SMRT, AF GSAM	
30 Describe the impact of Open Systems on software reuse			SYS 101	SMRT, AF GSAM	
31 State COTS/Reuse Issues			SYS 101	SMRT, AF GSAM	
32 Describe portability, through platform independence			SYS 101	SMRT, AF GSAM	
<b>Software Risk Management Application &amp; Analysis</b>					
34 Explain software Risk Analysis			SAM 101, SYS 101, AFIT/CSE 480	SMRT	
35 Give examples of software Risk management issues (planning, etc.)			SAM 101, SYS 101, AFIT/CSE 480	SMRT	
36 Explain varying risk profile through life cycle			SYS 101, AFIT/CSE 480	SMRT	
37 Give examples of organizational risk mitigation entities (SEMP, RMWG, TMWG, CRWG, CRLCMP, IPT's, etc.)			SYS 101, AFIT/CSE 480	SMRT	
38 Give examples of risk Management guidance			SAM 101, AFIT/CSE 480	SMRT	
39 Summarize the concept of a Domain Competent Work Force			SAM 101, SAM 201, AFIT/CSE 480	SMRT	

PM Level I / PM Level II / PM Level III / Gap Analysis PM Level I / Gap Analysis PM Level II / Gap Anal

Ready



# Model Responsibility and Functions





# Issues



- Have SAM courses become too IT-focused?
- How do we incentivize SWEs & others to become experts?
  - How do we identify SW-intensive positions?
  - How do we identify SW experts?
  - How do we get them promotions, etc?
- Leverage Core-Plus...
  - ... but what about those at Level 3?





# Issues



- Don't want to add more courses
- What gets displaced if SW material added to existing courses?
- Can case studies & exercises be made software-intensive?





# Issues



- Leverage existing PCE programs as appropriate
  - Where are the gaps?
- Graduate degrees
  - Lead time for
    - Student selection
    - Faculty plus-up\*
    - Program emplacement and/or modification
  - Push vs pull
  - \* Civilian Institute introduces other issues
- Baccalaureate degrees?





# Issues





# Ideas bounced around...



- Move SAM to SPRDE or other board?
- SAM 101 for all ...  
... plus career-field specific SAM courses  
e.g., “SAM 151”
- CLMs

(long term) inter-field “SW Chair”





# Where to from here?



- SATEWG Charter
- PM competencies
  - Low-hanging fruit
  - This week...
  - ...and the next dozen weeks
- Other career fields
  - Repeatable process
  - Engineers probably next



DO NOT  
TOUCH ANY  
OF THESE  
WIRES

