

Getting Through Your SCAMPI Appraisal

*Using CMMI to Make and Measure
Meaningful Improvements*

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Barriers to Successful SCAMPI

Raytheon

- **Historically less complex models and appraisal methods**
 - Example: Software CMM, EIA 731
 - Legacy process improvement organizations evolved for SW-CMM and IPI assessment method
- **Transition involving change management**
 - Strategic view versus tactical view
 - 'Matrix' organization with differing roles and viewpoints – more breadth in CMMI
 - Active role of executive management
- **Changes in appraisal preparation and team conduct**
- **New players in process game**



CMMI-Based Process Improvement

Software has been focus of improvement for years

- Legacy of using SW-CMM to stimulate:
 - More effective management methods
 - Proactive use of defined processes
 - Collection, analysis, and use of metrics in management and technical coordination
 - Leading to **Fact-based management**

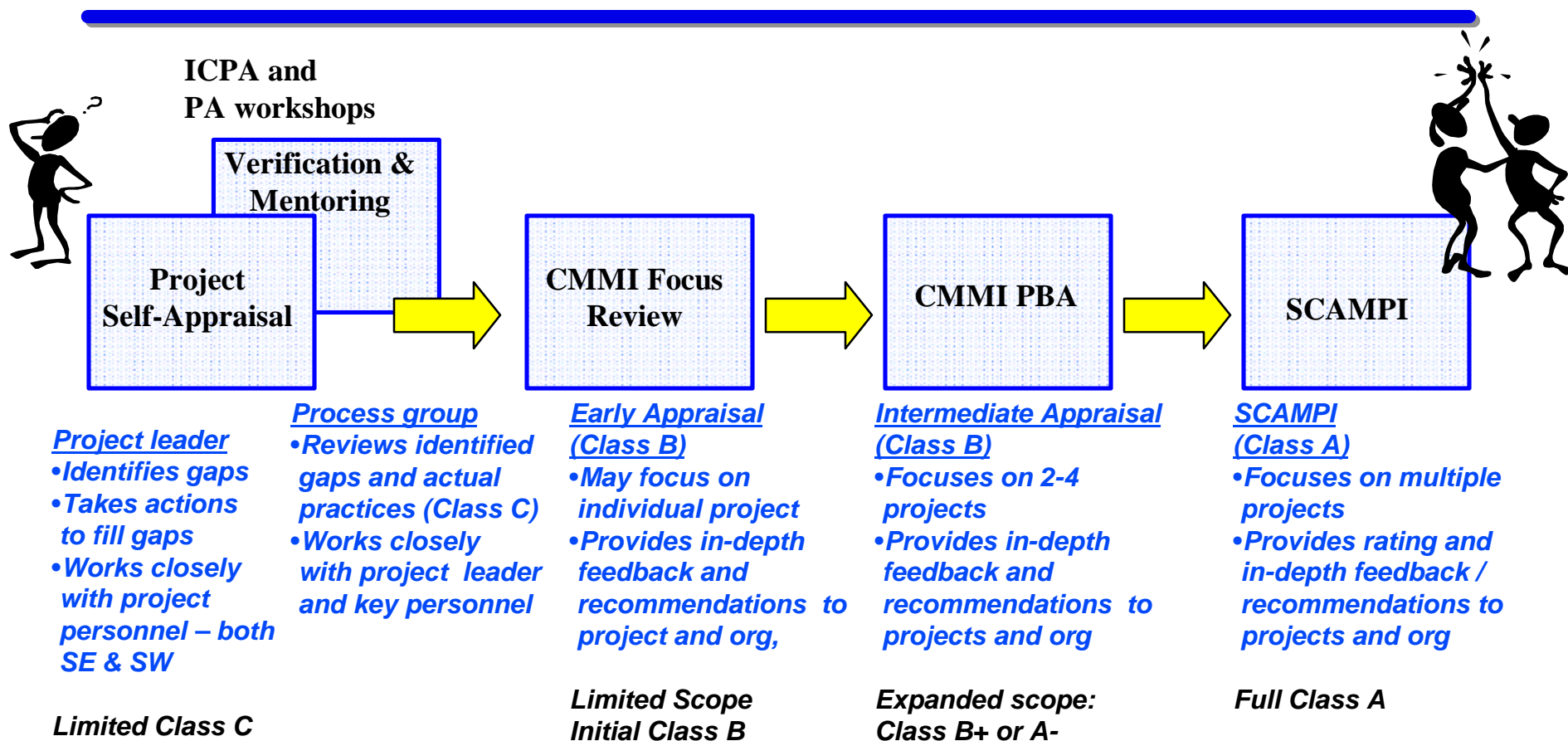
Systems engineering focus in recent years

- Recognized engineering discipline
 - Engineering technology focus
 - Project coordination and discipline interfaces
 - May direct use of engineering processes, methods, and tools

Getting synergy and working together

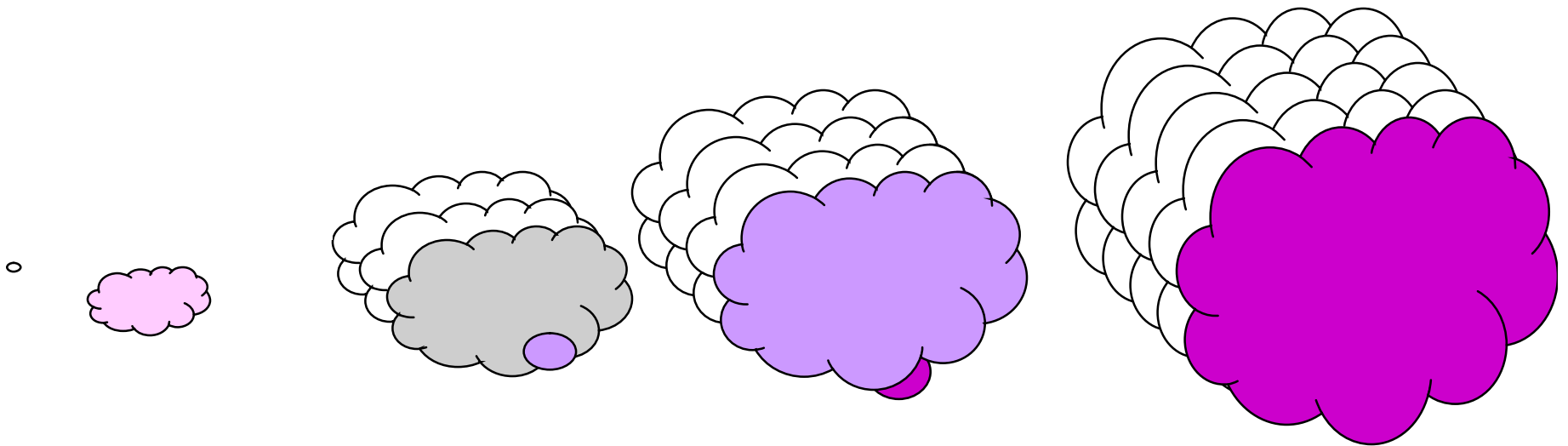
- Traditionally quite separate

Evolution for an Organization – CMMI Appraisals

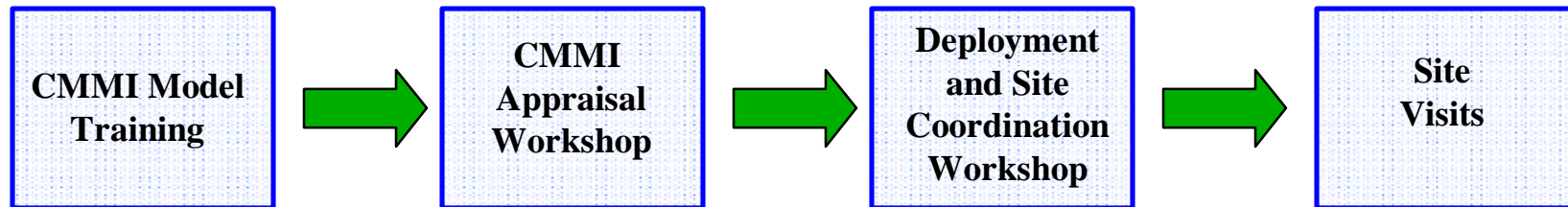


Evolution of Scope

Effort associated with preparation increases significantly



How Do Organizations Get There?



Effective Approaches in Improvement

Bringing people together to work collaboratively



Integrating planning

- *Integrated program plans & schedules*
- *Multiple disciplines & supporting functions*

Integrating development of requirements, architecture, and design

- *Process engineering leadership, with multiple engineering discipline collaboration*

Defining common metrics

- *Metrics defined to provide equivalent information*
- *Provide insights and support effective management of programs and org functions*

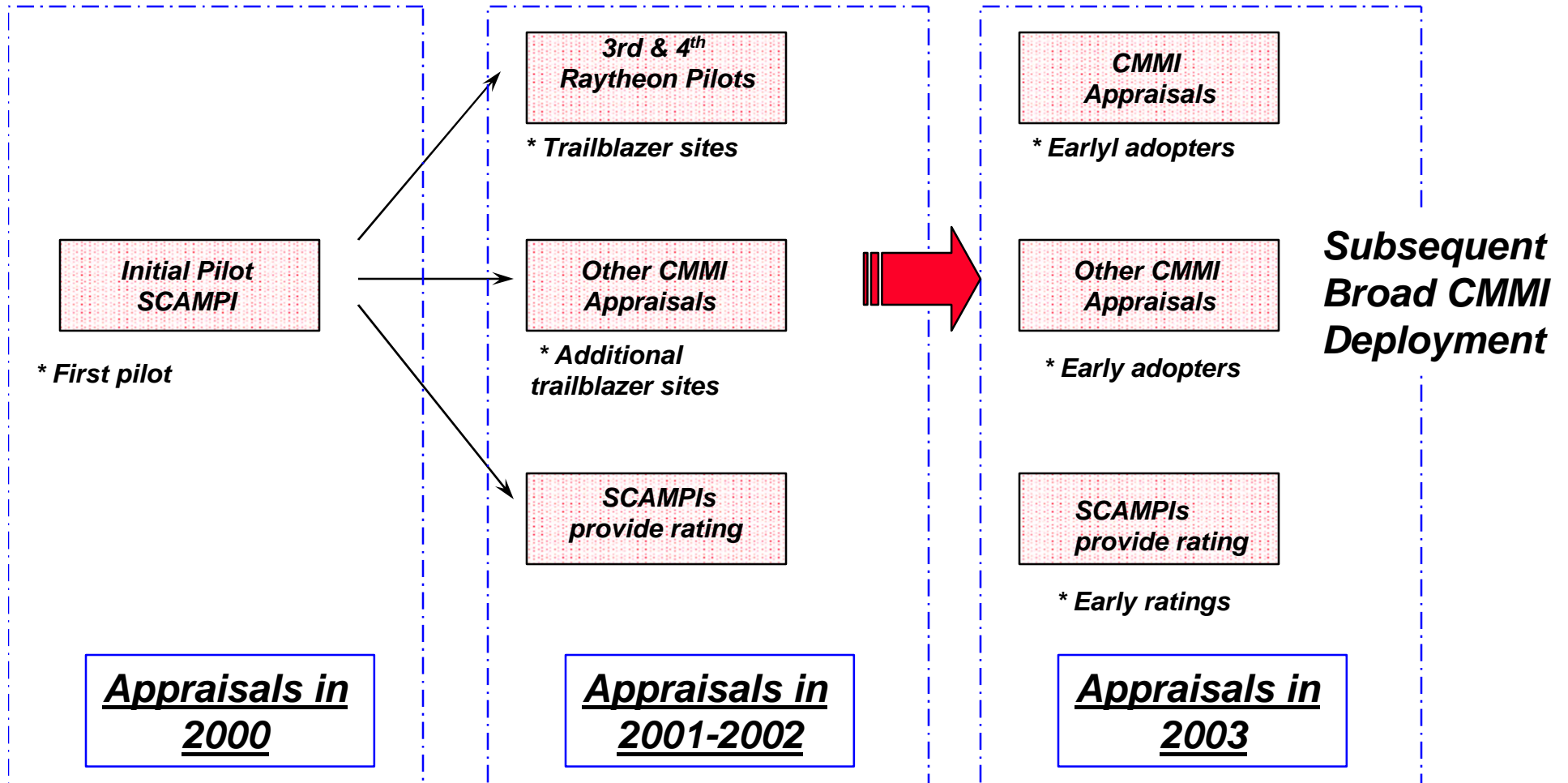
Integrating disciplines in process group

- *Collaboration between groups and functions, providing better synergy and more effective process improvement*

More effective management
Better control of programs

Effective Approaches in Improvement

Early successes lead to greater breadth of understanding

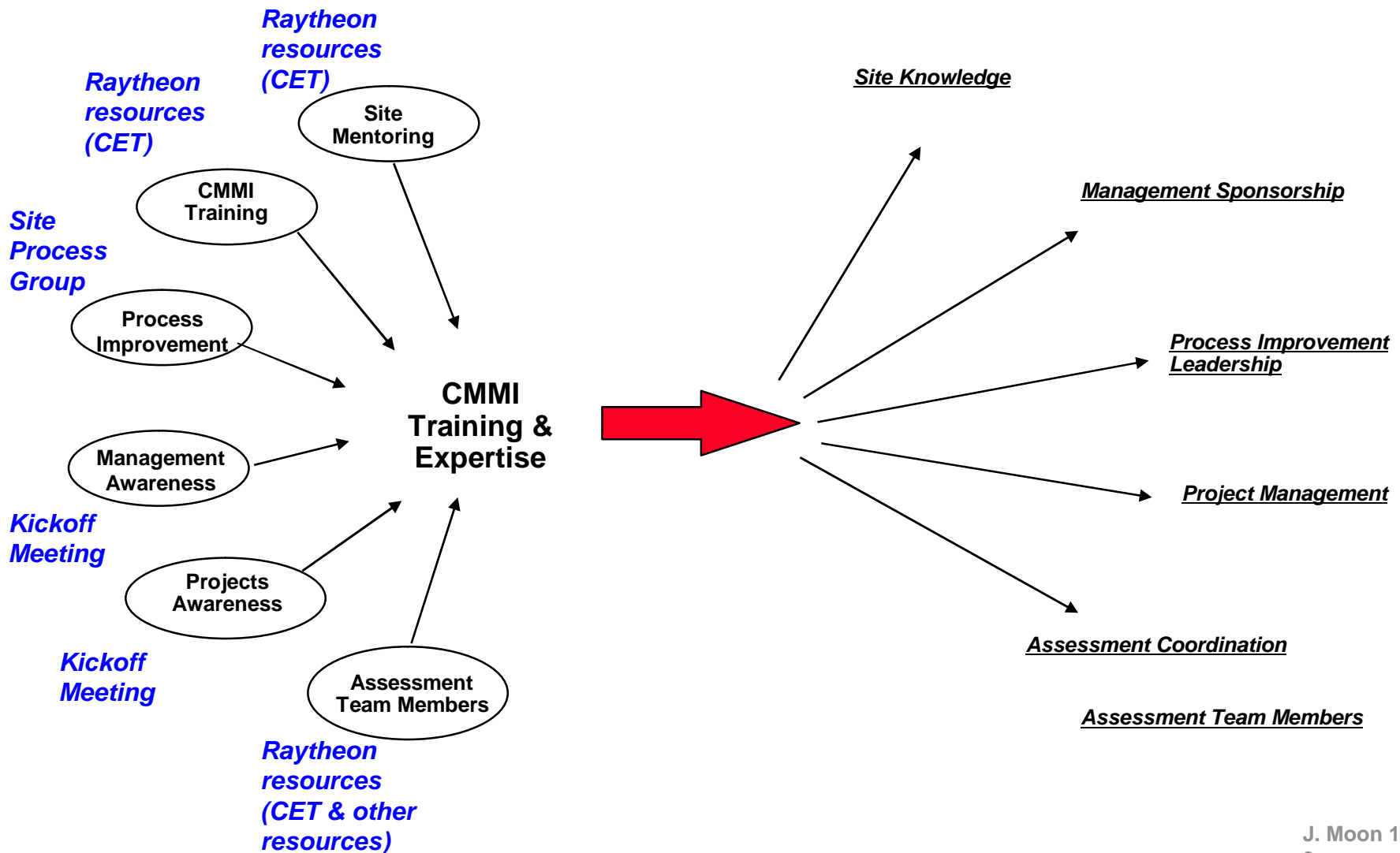


Notes: Each appraisal includes 2-3 new team members; provides experience, growth, and mentoring
CET coordination, workshops, and mentoring role

Moving Organization/Site to CMMI – Draw on CMMI Knowledge & Expertise



Work with CMMI mentors, integrating disciplines together



Planned Evolution of CMMI Knowledge

Team expertise

- Selected team members' experience multiple CMMI appraisals by 12/2001
 - Geographically diverse sites assessed
 - Experts' background half SE and SW; some multiple disciplines; most both technical and management; from multiple site locations:
 - * East coast, central US, west coast
 - Provide guidance to own site in its CMMI-based improvement efforts
- Each subsequent CMMI appraisal:
 - Continue to add 2-3 new team members, typically from both disciplines, ensuring continuing growth of expertise with CMMI
 - Include team members with complementary backgrounds and diverse experience
- Establishment of CMMI Expert Team (CET)
 - Guidance and mentoring CMMI deployment at multiple locations
 - Extensive SE background and knowledge



Some Lessons Learned

Benefits

- **Growth from early Focus Review to PBA and SCAMPI**
 - Draws from past lessons learned and apply best practices
 - Assists organizations in understanding how to plan for their CMMI-based improvements
 - Provides extensive knowledge of CMMI in a collaborative team setting -> effective understanding across one or multiple sites
 - Builds understanding of what works well and what does not
- **Integrating disciplines in appraisals leads to greater understanding**
 - Allows collaboration in planning and support for organizations/sites
 - Provides cross-fertilization of past experience and discipline expertise
 - Application of CMMI in various organization/project/discipline implementations
 - Provides insights, allowing team members to return to own sites with broader knowledge
 - Can provide lessons learned to organization, based on real experience, which helps future understanding and improvements
- **Integrating disciplines and experience in process group leads to synergy and knowledge sharing -> more effective deployment**



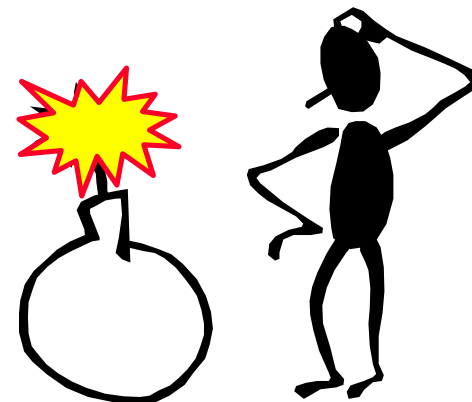
Some Lessons Learned

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Inhibitors

- Knowledge gained in past process improvement efforts may not be accepted by other disciplines
 - Quite different appraisal methods can contribute to resistance
 - When past improvement efforts have been undertaken separately, resistance to working collaboratively has been observed
 - May take extended work together to overcome barriers
- **Organizations often want to move faster than they can**



Significant Lessons

*Always most important – must retain focus on **value** of the improvements,
not just the evidence or achieving success in assessments*

*Aim for the **benefits** to the entire organization*

