

# **CMMI in Commercial Use – A View from the Outside**

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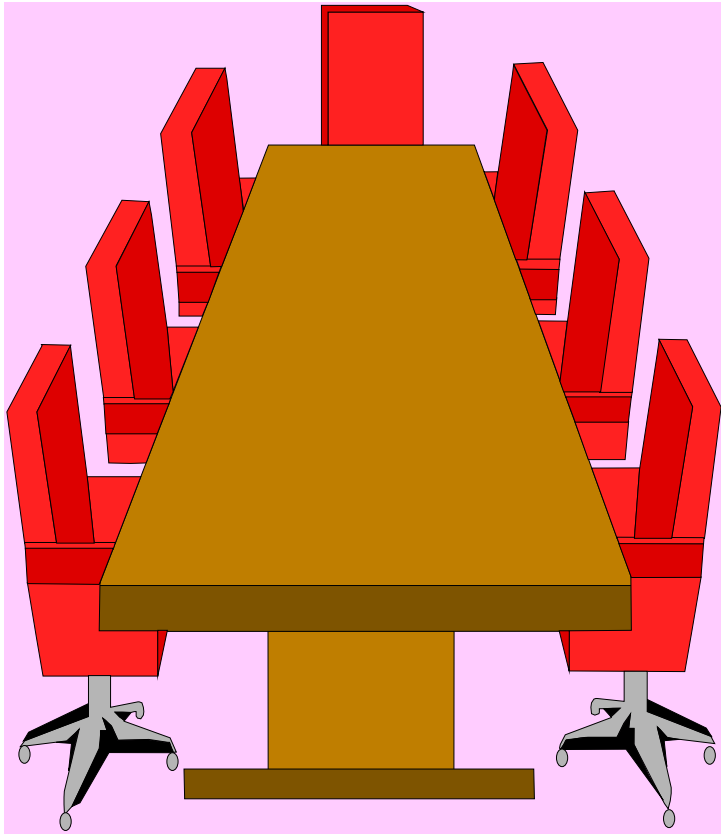
**8<sup>th</sup> Annual PSSM User's Group  
Conference**

# Experience Summary

- Most CMMI early adopters to-date reported to be the military and their contractors
- While being heavily adopted in Asia, many in the commercial sector in the US and Europe have abandoned the CMMI
  - View it as a DOD creation with little commercial input
  - Consider it overly restrictive and complicated (SCAMPI)
- Many commercial firms view the CMMI as DOD's next Ada



# Original CMM Goals



**Goal** – let industry carry the ball

- Establish framework for self-improvement
- Help senior managers understand what's needed to be succeed with software
- Engage the community and get their buy-in
- Stimulate future developments via commercialization

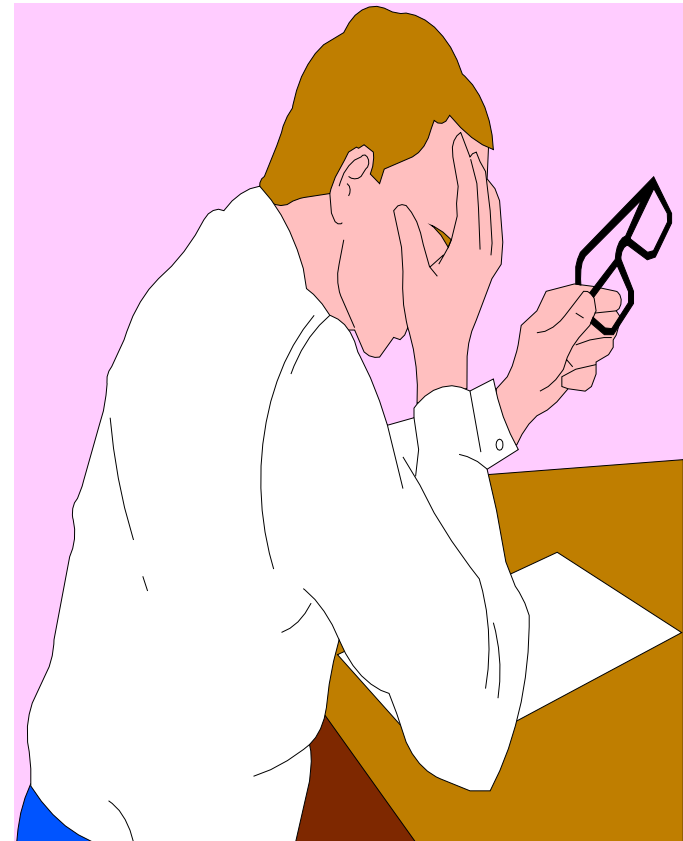
# Three Waves of CMM Adoption

- At first, made up of a large wave of military contractors
  - Stimulated when Level 3 was made a precondition to do USAF work
- Followed later by an even larger wave of commercial firms making process improvements
  - Many dropped the CMM when hit by the business down-turn
- Followed by even larger wave of foreign firms (China, India, etc.) seeking US out-sourcing jobs



# Not Compelling Justification

- **CMMI** - Many commercial firms currently don't see the value of using it
  - DOD builds weapons systems, they provide services and software
- Business case for CMMI use viewed as non-existent by firms that I talked with
  - Systems engineering doesn't solve software problems
- Early adopter experience views expenses as not justified by returns
  - Results in abandonment



# One Large Firm's Experiences

- SEI Guidance

- Manuals over-bearing
  - Should have gone with one model instead of two
- Good SEI support readily available for a fee (\$\$\$)
  - Training and qualified assessors available

- SCAMPI Process

- Audit-based
  - Needed to pass test; self-improvement not the goal
- Viewed by many as overkill when getting reassessed
  - Must do as qualifier to win DOD work

- Expensive

- Ten people working for 10 weeks at Division level to conduct review
- Thirty people working for 4 months to get ready to perform the appraisal
- Total cost = \$3 million
  - Spent \$1.5M to go from CMM Level 4 to 5 just two years ago

- CMMI standard

- Viewed as military-based
- Criticized as having too little commercial standards organization involvement
  - IEEE, ISO, etc.

# SEI SEMA Data Analysis

| SEMA Date | Time Period | No. Orgs. | No. Firms | No. Projects | % Off-Shore | Classification |         |          |       |
|-----------|-------------|-----------|-----------|--------------|-------------|----------------|---------|----------|-------|
|           |             |           |           |              |             | Comm.          | DoD/Fed | Military | Other |
| CMMI      | 2002-6/03   | 65+       | 52        | 357          | 54%         | 47%            | 45%     | 8%       |       |
| 3/03      | 1998-2002   | 1345      | 508       | 6765         | 47%         | 72%            | 24%     | 4%       |       |
| 3/02      | 1997-2001   | 1158      | 365       | 5424         | 38%         | 69%            | 25%     | 6%       |       |
| 3/01      | 1996-2000   | 1012      | 302       | 4783         | 33%         | 65%            | 27%     | 8%       |       |
| 3/00      | 1995-1999   | 870       | 256       | 4110         | 30%         | 61%            | 30%     | 9%       |       |
| 3/99      | 1994-1998   | 731       | 214       | 3466         | 27%         | 54%            | 29%     | 12%      | 5%    |
| 5/98      | 1993-1997   | 636       | 195       | 3021         | 24%         | 50%            | 28%     | 16%      | 6%    |

**72% commercial inputs for SW-CMM versus 47% for CMMI is discouraging especially when DOD made a major effort to get outsiders to adopt the framework**

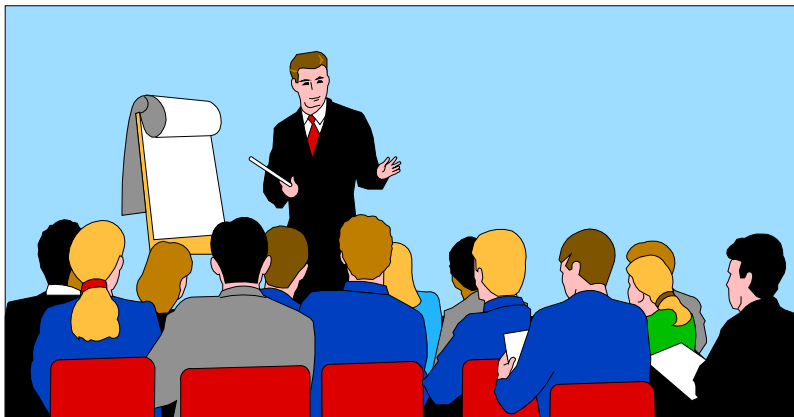
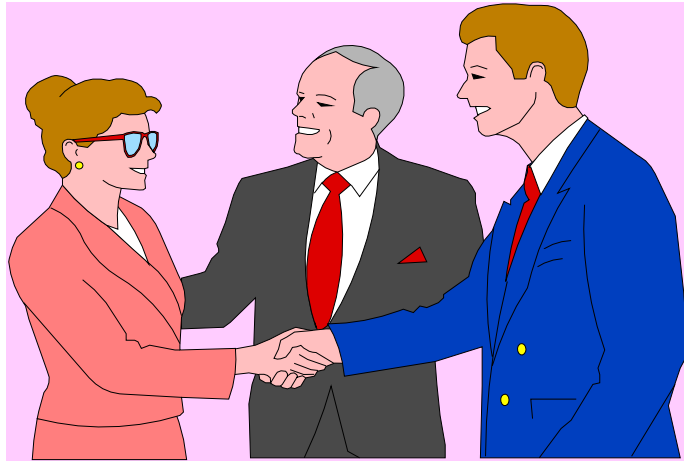
# MORE SEMA Data Analysis

| SEMA Date | Time Period | % in CMM Level |       |       |      |       |
|-----------|-------------|----------------|-------|-------|------|-------|
|           |             | 1              | 2     | 3     | 4    | 5     |
| CMMI      | 2002-6/03   | 10.6%          | 27.3% | 37.9% | 4.5% | 19.7% |
| 3/03      | 1998-2002   | 16.9%          | 43.2% | 24.6% | 8%   | 7.3%  |
| 3/02      | 1997-2001   | 24.8%          | 39.9% | 23.8% | 6%   | 5.5%  |
| 3/01      | 1996-2000   | 32.2%          | 39.3% | 19.4% | 5.4% | 3.7%  |
| 3/00      | 1995-1999   | 39.3%          | 36.3% | 17.7% | 4.8% | 1.8%  |
| 3/99      | 1994-1998   | 47.9%          | 30.8% | 16.7% | 4.1% | 0.5%  |
| 5/98      | 1993-1997   | 56.8%          | 24.5% | 15.4% | 2.7% | 0.6%  |

- Most CMMI early participants were high level adopters from either DOD/aerospace or foreign firms (i.e., 62.1% of CMMI were level 3 or higher while 84.7% of SW-CMM appraisals were level 3 or lower)
- Trends indicate that firms at lower levels of the CMM and CMMI are not flocking to its use (like in the past) **(SEI Public Affairs refutes these claims)**



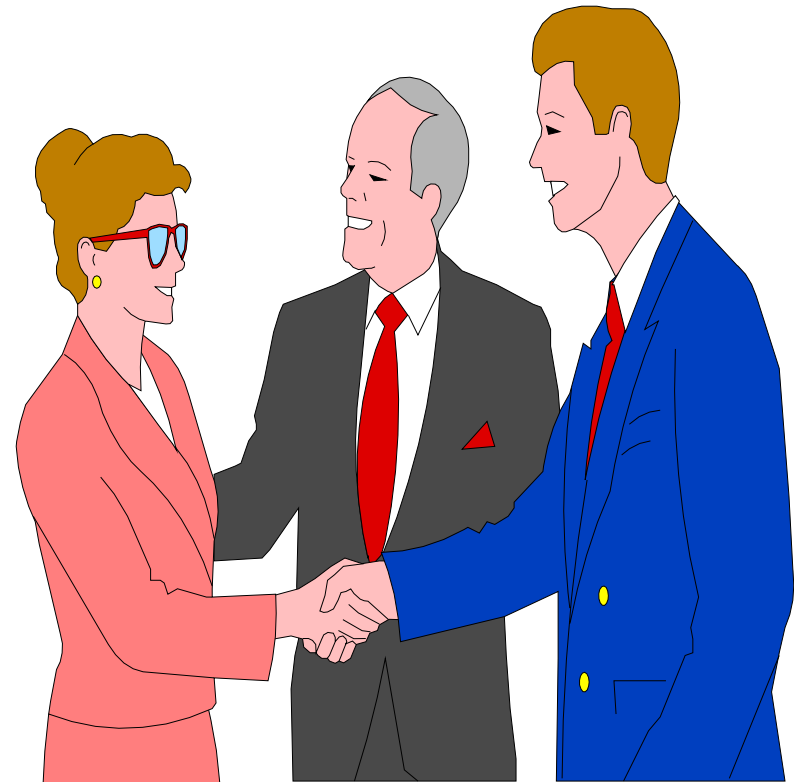
# What Should SEI/DOD Do?



- They already taken some positive actions in response to criticisms
  - However, on hold waiting for new Director
- However, many view these actions as too little and too late
- Suggest they conduct an independent assessment
  - Ask IEEE-TCSE to chair
  - Should ask IEEE how to get commercial buy-in
  - IEEE should brief results to SEI Director/Responsible DOD Officials

# Positive SEI Actions

- Expand Advisory Board to include commercial members
  - From auto manufacturers, banks, insurance firms, financial institutions, etc.
  - Not from commercial arms of aerospace companies
- Develop commercial appraisal methodology
- Develop commercial examples and guidelines
- Expand outreach and mend relationships



# Summary and Conclusions

- Let's make the CMMI a success
  - Respond to criticism positively, not defensively
  - Support efforts by commercial firms within the US to embrace it
- Let's reconsider returning to a self-improvement philosophy
  - Provide support for use either in an acquisition or a self-improvement mode
  - Be responsive to US industry first, then foreign firms
  - Move ahead and continue the momentum

# Final Thoughts

**There isn't any silver bullet**  
*... Fred Brooks*

**They will always believe  
the big lie**  
*...Hitler*

**If you don't know where you are,  
a map won't help**  
*... Watts Humphrey*

**To survive with government initiatives,  
declare success and move ahead**  
*... Don Reifer*