

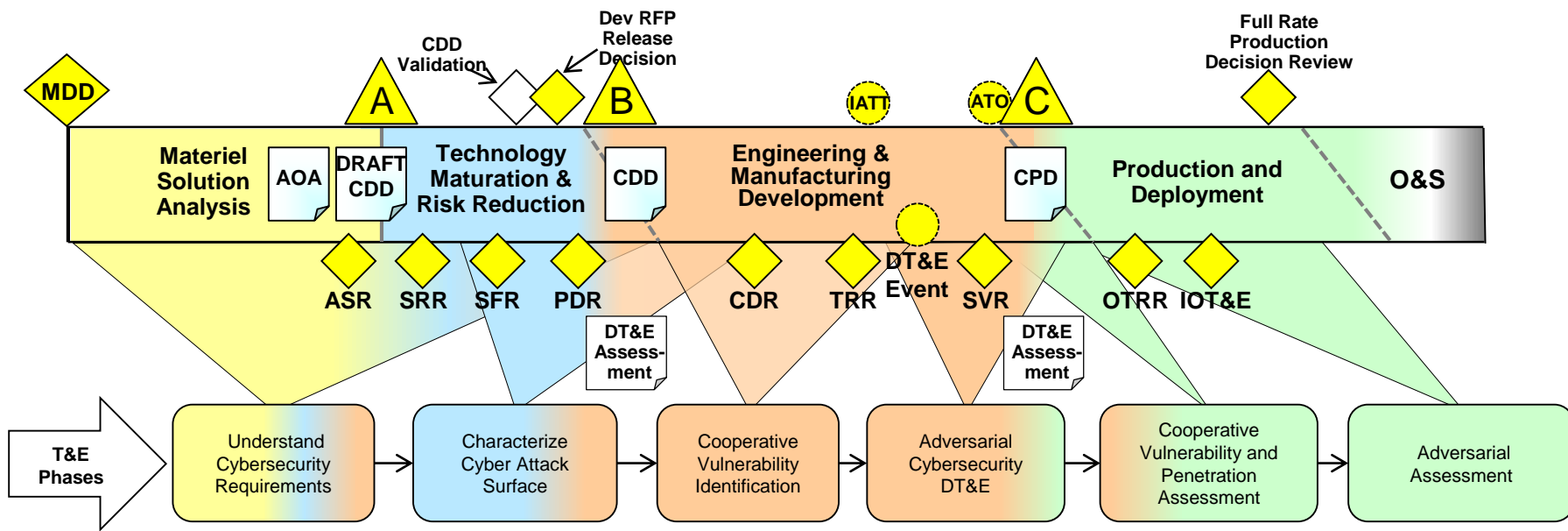


**ITEA Cybersecurity Test and
Evaluation Workshop**
Dr. C. David Brown, PE, CTEP
Former
Now Concerned Citizen

March 2017

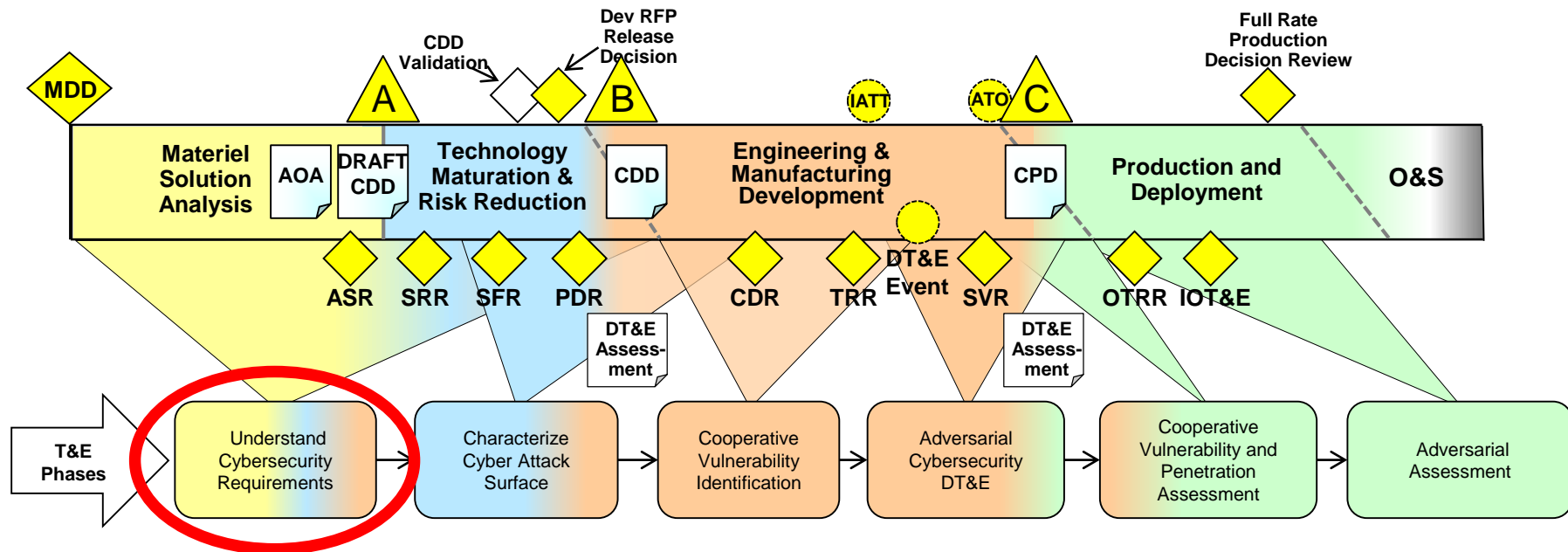


Cybersecurity T&E Process





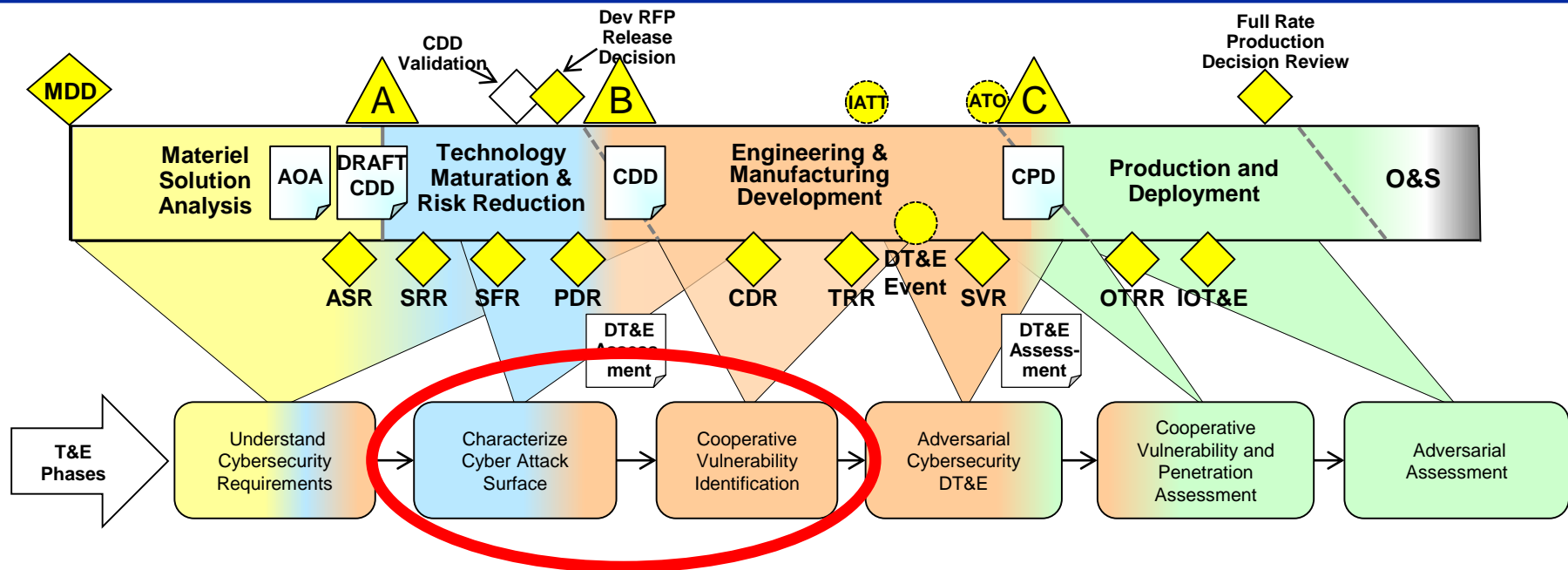
Requirements



- **Start Early**
- **Specified and Derived / Implied**
- **Strong Link with User, PM, SE, T&E, and Contracting**
- **Cyber Table Top**
- **People**



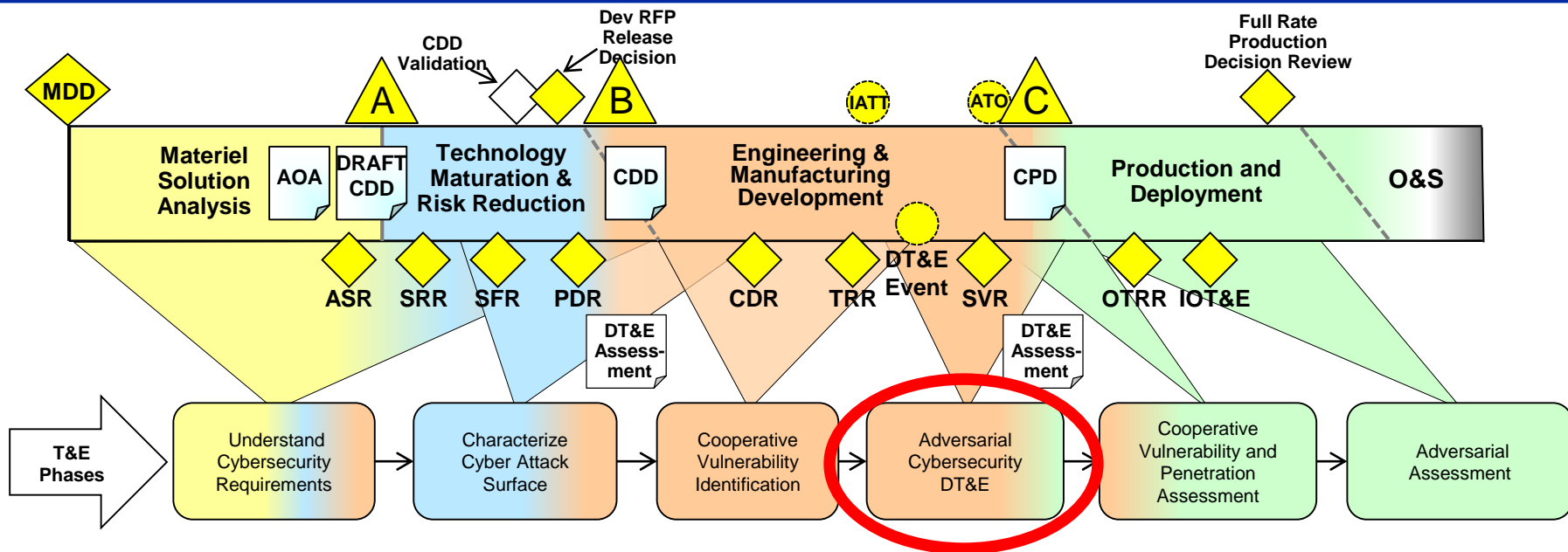
Attack Surfaces and Vulnerabilities



- **Strong Link with SE**
- **Start Early – Cyber Table Top**
- **System Under Test and Test System**
- **People**



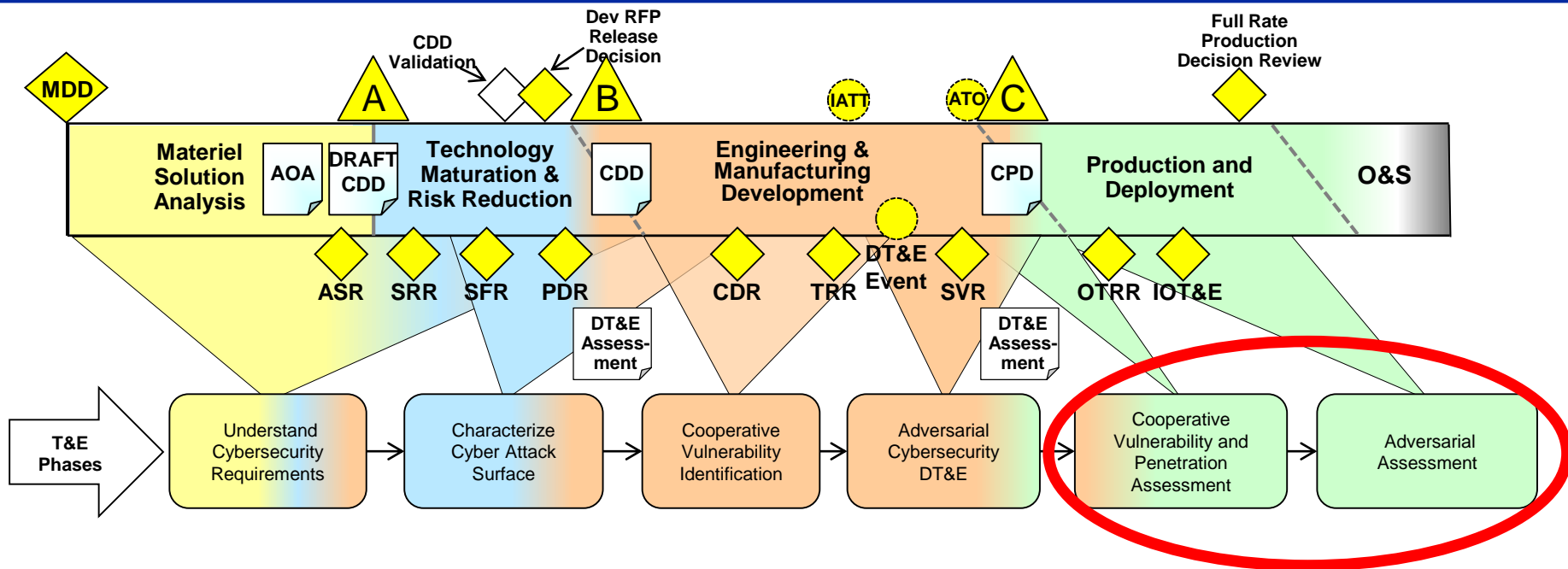
DT&E



- **Strong Link with SE**
- **Cyber Table Top to Blue Team to Red Team**
- **Mission Based DT**
- **Test Resilience**
- **System Under Test and Digital Twin**
- **People – Cybersecurity Engineers and Pen Testers**



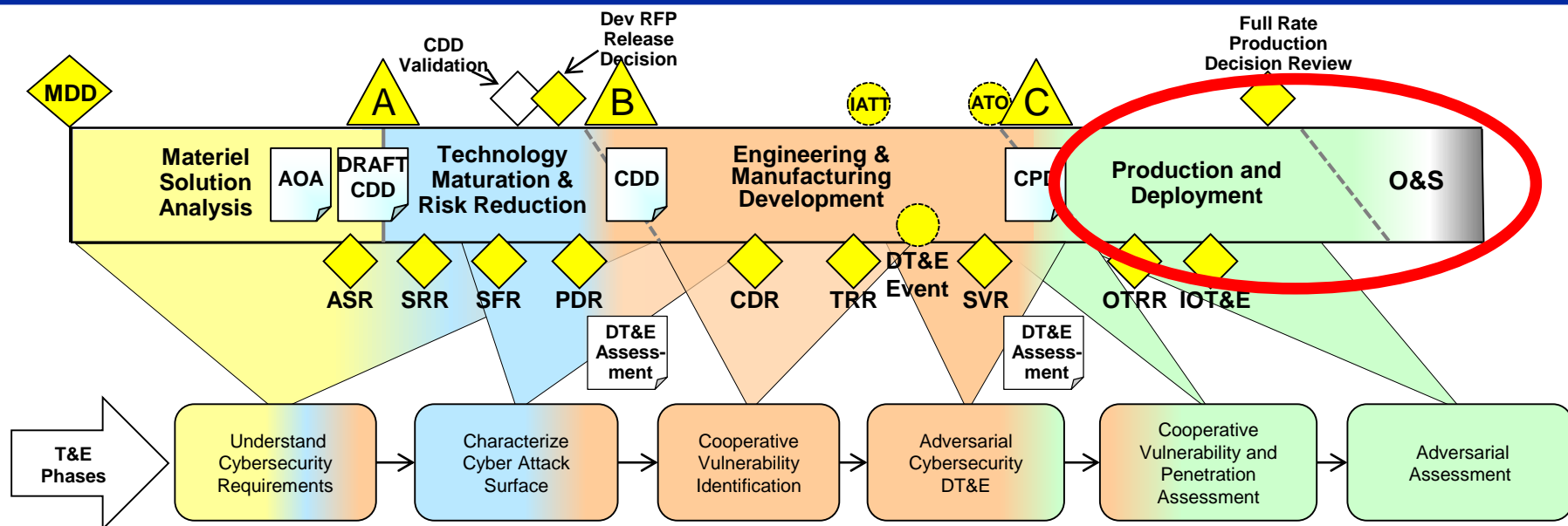
OT&E



- **Strong Link with DT&E**
- **Red Team + (More than just Pen Testing)**
- **Resilience Testing – Effect on the Mission**
- **Assessments of Legacy Systems**
- **People –Pen Testers +**



Production and Deployment Operations and Support



- **Trusted vs. Tested**
- **Careful Engineering of Updates and Modifications**
- **Continuous Assessment of Evolving Threats and Vulnerabilities**
- **System Under Test and Digital Twin**
- **People – Skilled Operators, Cybersecurity Engineers, Mfg Engineers, and Pen Testers**



Big Rocks

- **People**

- **Operators**
 - **Significant Vulnerability**
 - **Significant Subsystem**
 - **Should be cyber engineered and tested**
- **Testers and Evaluators**
 - **Attract and retain**
 - **Train**
 - **Government/contractor mix**

- **Understanding**

- **Cyber is not a noun**
- **Cyber Table Tops**
 - **The tool for understanding**
 - **Multiple and start early**
 - **Include User, Requirements, PM, SE, T&E**



Additional Thoughts

- **RMF vs. Cybersecurity SE and T&E**
- **Vendor Proprietary Code**
- **Offensive Cyber “Systems”**
 - **Development process and policy**
 - **Requirements**
 - **Engineering**
 - **T&E**
 - **O&S**



Bottom Line

- **Great Workshop**
- **Much Info**
- **Much Work to Do**
- **Much Work that We Must Do**



Bottom Line

- Great Workshop
- Much Info
- Much Work to Do
- Much Work that We Must Do

Tail Wagger the Dog



Makes for a ~~STUPID~~ Dog...

SMARTER



**Thanks for Staying!
Thanks for Listening!**

