The Acquisition Process

and the

"Road To CEC OPEVAL"

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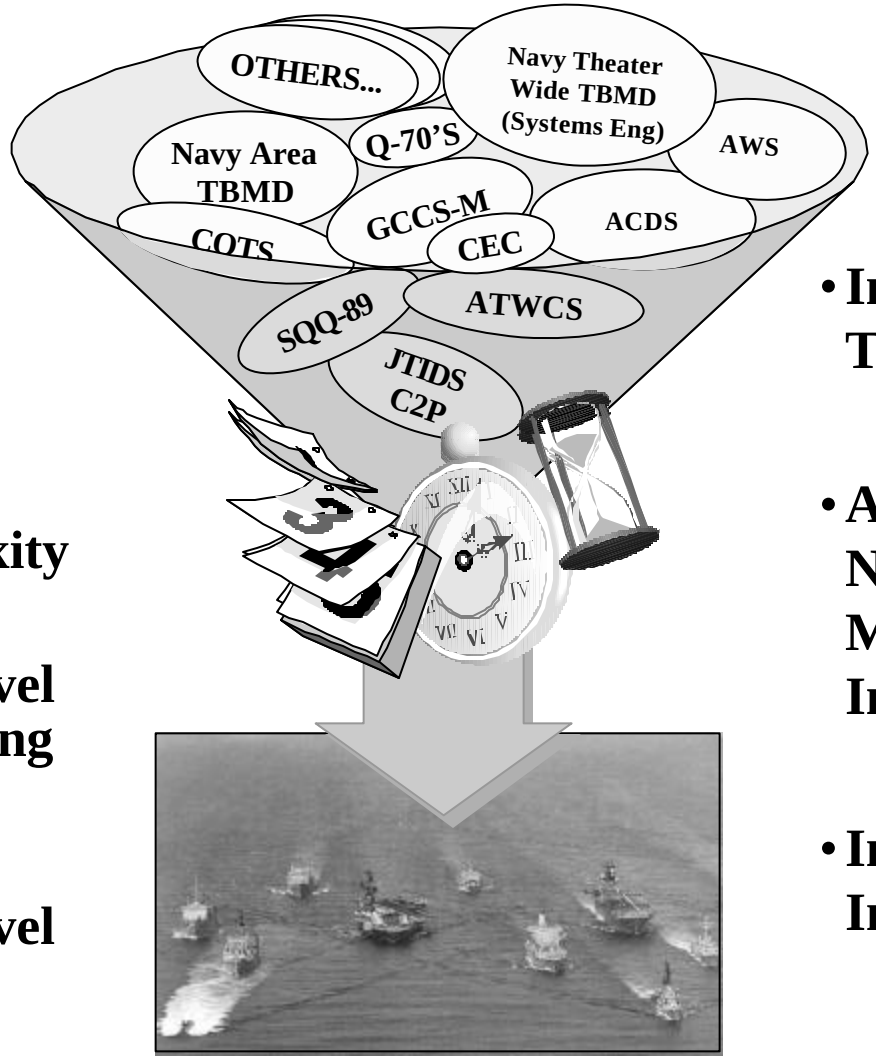
WHAT BROUGHT US HERE?

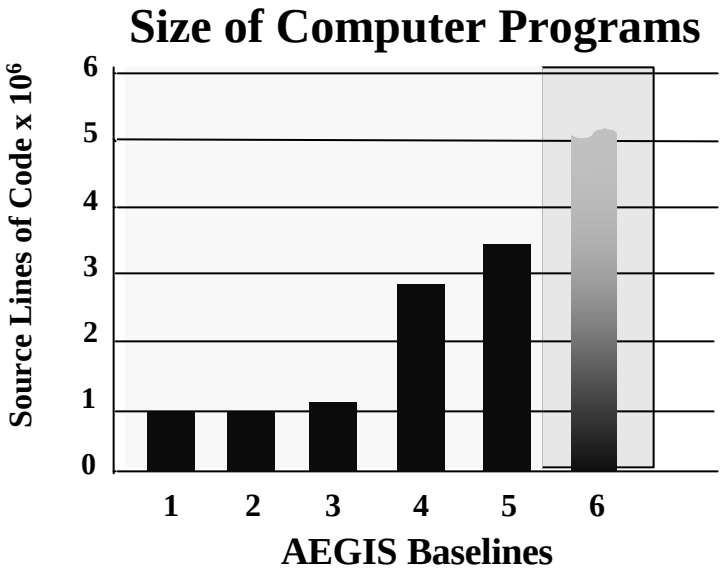
- **Legacy Systems**
- **Overaggressive Schedules**
- **Size and Complexity**
- **Lack of Force Level System Engineering Process**
- **Lack of Force Level Performance Validation**

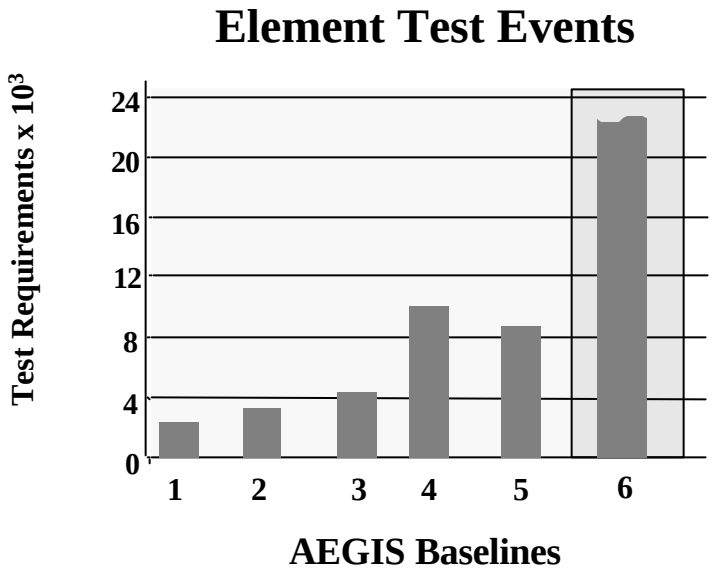


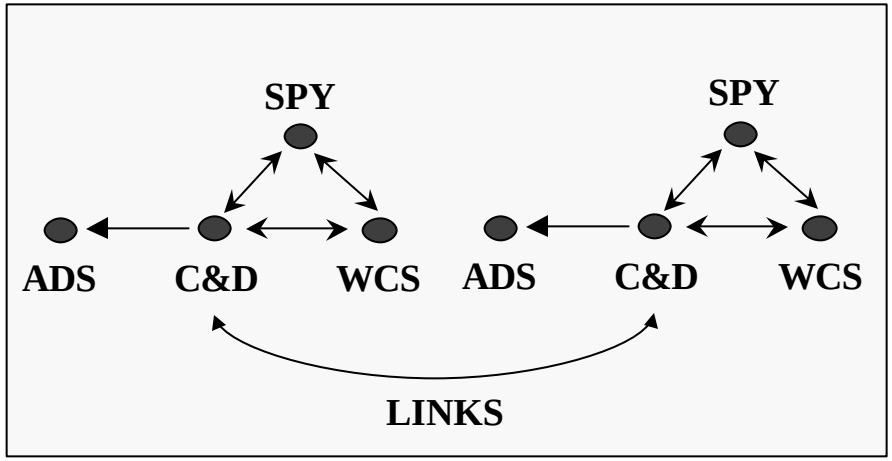
- **Inadequate Shore Based Testing**
- **Acquisition Paradigm Not Synchronized With Move Toward Integrated Battlegroups**
- **Inadequate Interoperability Design**

NEEDED TO PAUSE AND <u>RETHINK</u>…THIS *<u>IS</u>* ROCKET SCIENCE!

INCREASED COMPLEXITY = INCREASED SYSTEMS ENGINEERING







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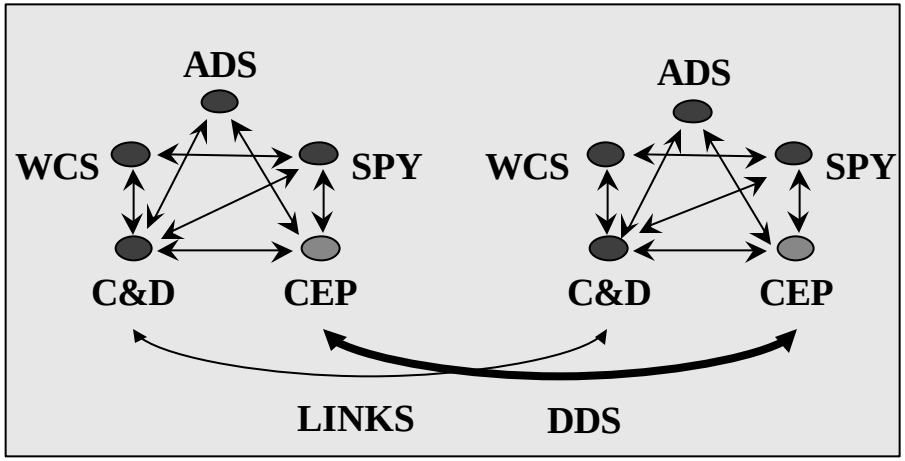
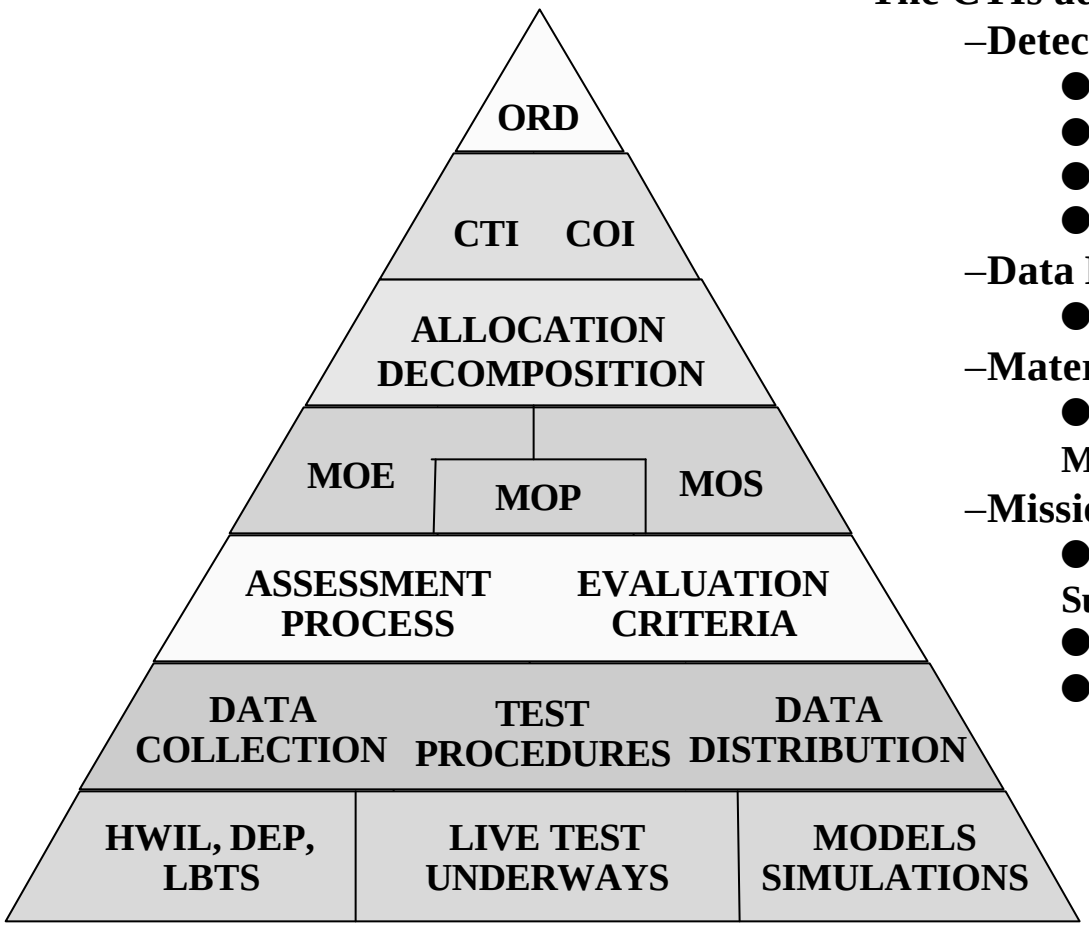


NOW

Analysis
- Framework-



The CTIs address performance in four areas:

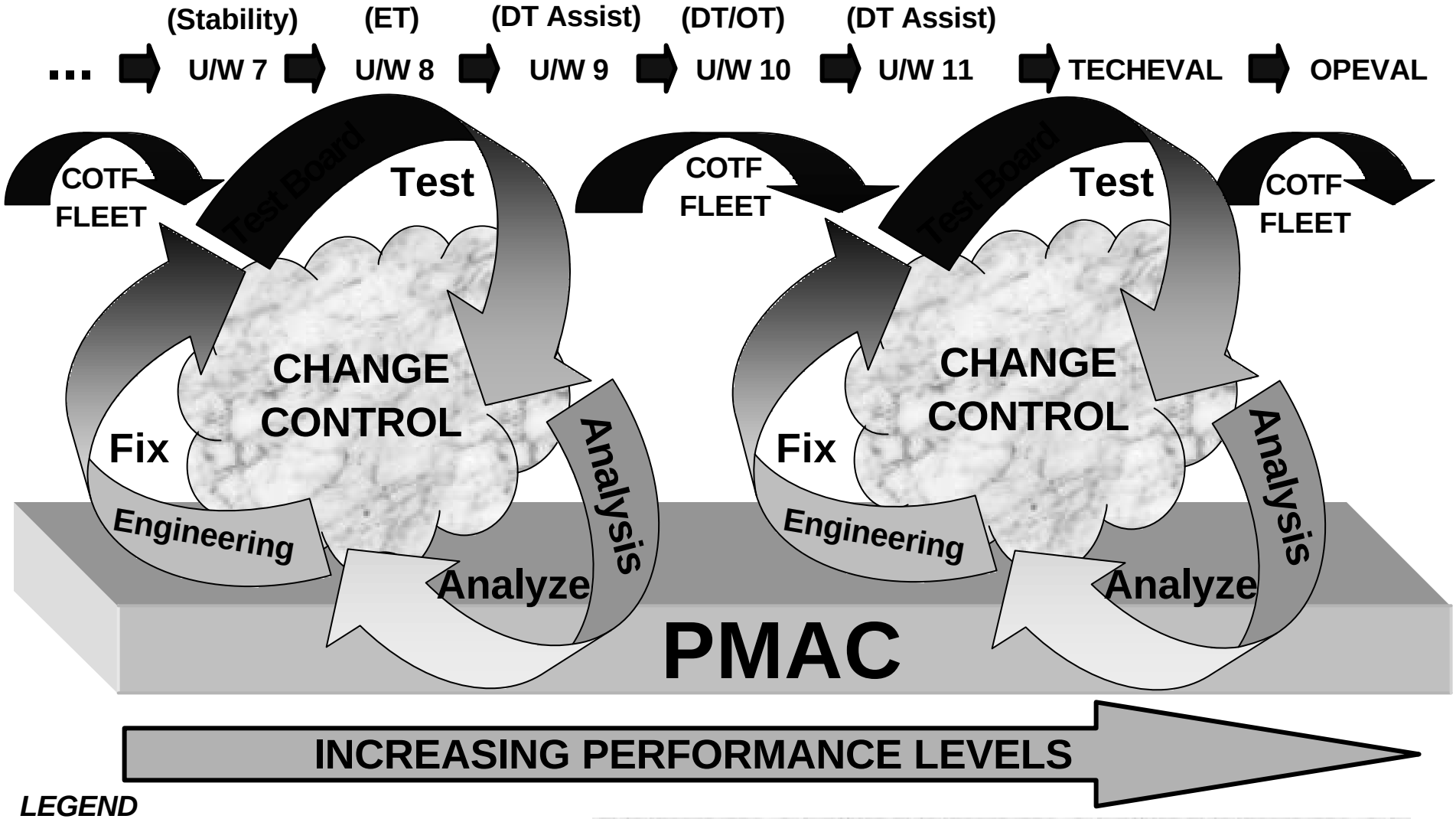
- **Detect-to-Engage:**
  - **CTI 1 – Depth of Fire**
  - **CTI 2 – Cooperative Engagement**
  - **CTI 3 – Identification**
  - **CTI 4 – Composite Tracking**
- **Data Distribution**
  - **CTI 5 – Data Distribution**
- **Material Readiness**
  - **CTI 6 – Reliability, Availability, and Maintainability**
- **Mission Information Management**
  - **CTI 7 – Distributed Air Defense System Support**
  - **CTI 8 – Common Tactical Picture Support**
  - **CTI 9 – Force Interoperability**

■ Derived from CEC ORD Requirements

■ Derived from CEC ADM Requirements

CTIs provide the principal means for the assessment of CEC ORD and ASN RD&A ADM requirements.

Interoperability Task Force: Test - Analyze/Assess - Fix

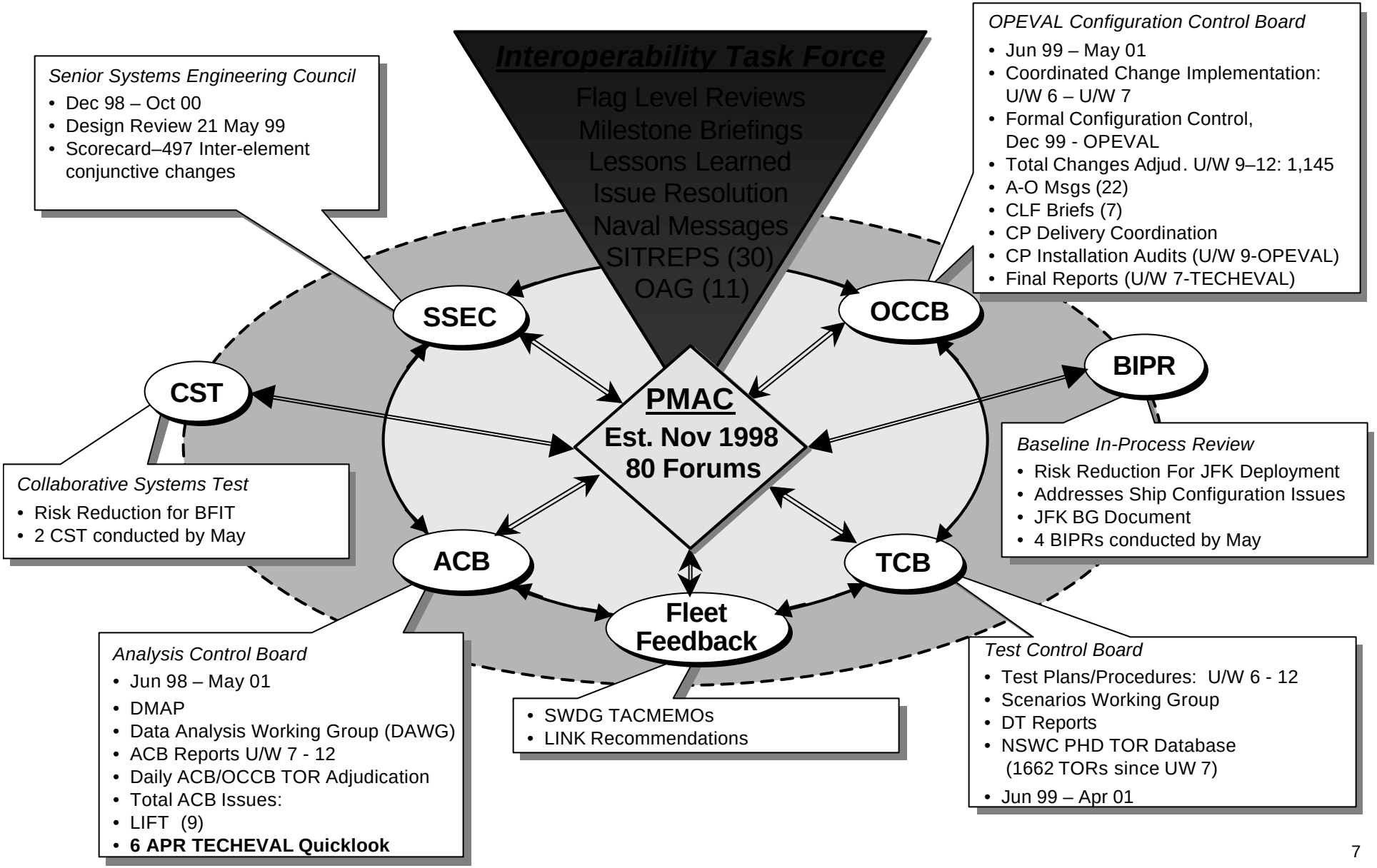


LEGEND

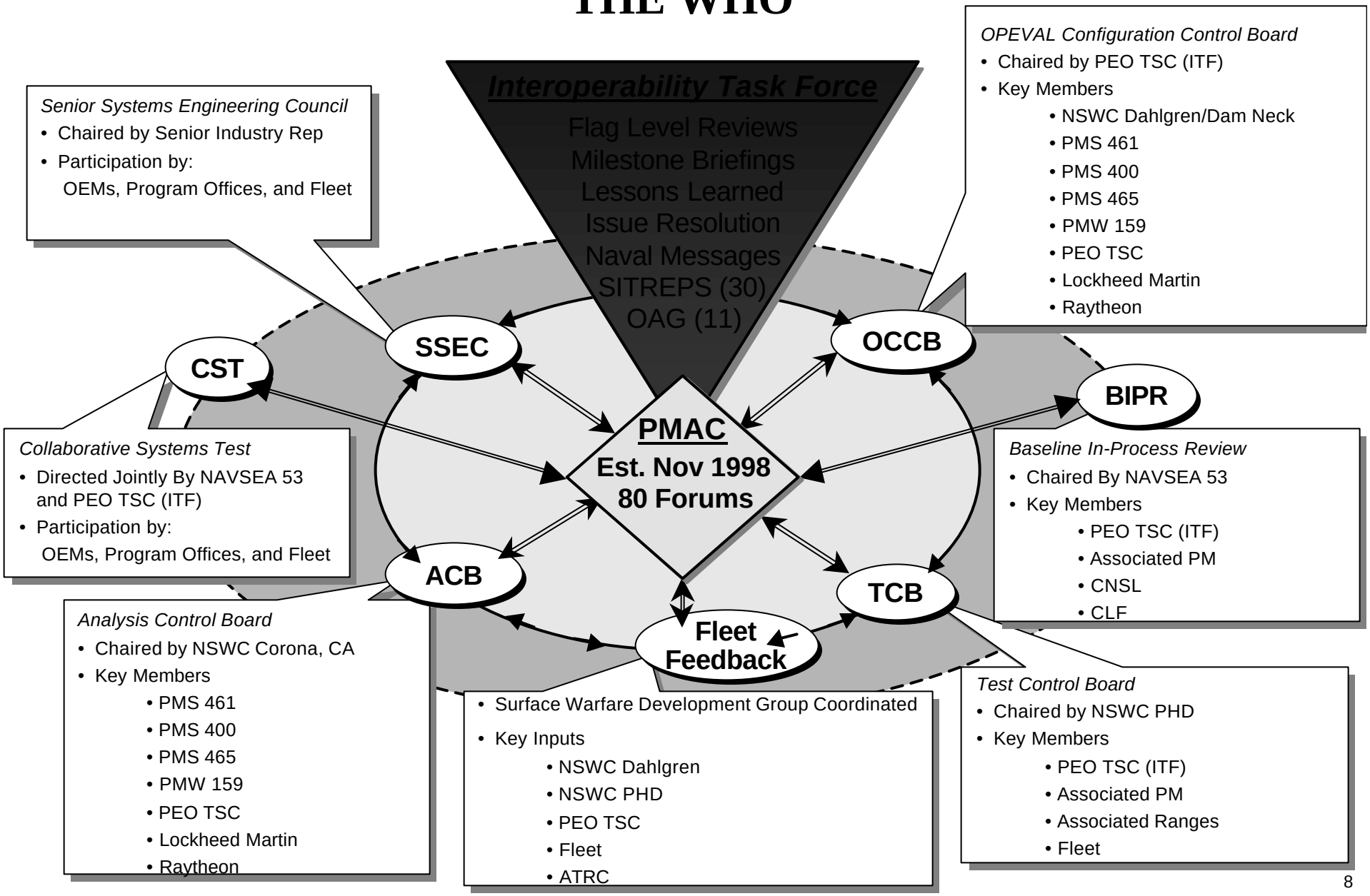
PMAC - Program Managers Advisory Council
COTF - Commander Operational Test & Evaluation Force

Test - Analyze/Assess - Fix

ROAD TO CEC OPEVAL
ACQUISITION CONSIDERATIONS
"THE WHAT"



ROAD TO CEC OPEVAL
ACQUISITION CONSIDERATIONS
"THE WHO"



WHAT BROUGHT US HERE
"OUR SCORECARD"

Legacy Systems

- Transition to COTS
- Object Oriented Modular System Designs
- Long Term Issue

Overaggressive Schedules

- Rescheduled CEC OPEVAL
- Decompressed Overall Development Schedules

Size and Complexity

- Improved Tools
- Improved Program/ Engineering Coordination
- Object Oriented Designs

Lack of Force Level System Engineering Process

- CHENG/NAVSEA developing process
- Improved performance and more cost-effective investment decisions

Lack of Force Level Performance Validation

- DEP/HWIL Ashore
- Robust Testing at Sea
- Effective Performance Assessment

Inadequate Shore Based Test Environment

- Enhanced Hardware in the Loop (HWIL) test capability
- Developed Distributed Engineering Plant (DEP)

Acquisition Paradigm Not Synchronized With Move Toward Integrated Battlegroups

- PEO TSC ITF for CEC OPEVAL and I Team
- PEO TSC System Engineer
- NAVSEA for Battle Group Interoperability

Inadequate Interoperability Design

- Top Level System Engineering
- Coordinated Up-front Rqmts and Design
- Naval CHENG
- SIAP SE Task Force

RIGHT DIRECTION…A LONG WAY TO GO

In Summary ……

- Solutions to “Interoperability” in the Acquisition Process must account for the continuous increase of the complexity of our systems
- Engineering of interoperable systems requires rigorous pursuit of analysis…the Acquisition Process must fully support an executable analysis framework
  - Absolutely necessary…probably not sufficient
- Acquisition Processes must evolve to account for the Interdependency of Programs
- Acquisition Processes must support fixing problem….not just identifying them
- Finally…the Acquisition Process has to account for the attraction and motivation of talented people. This is (and will remain) for the immediate future resource and labor intensive.
  - Consistent resource sponsorship is fundamental to progress