

Real Time Embedded Systems Forum



Imperatives for Weapon System Acquisition through the Modular Open Systems Approach

28 June 2000

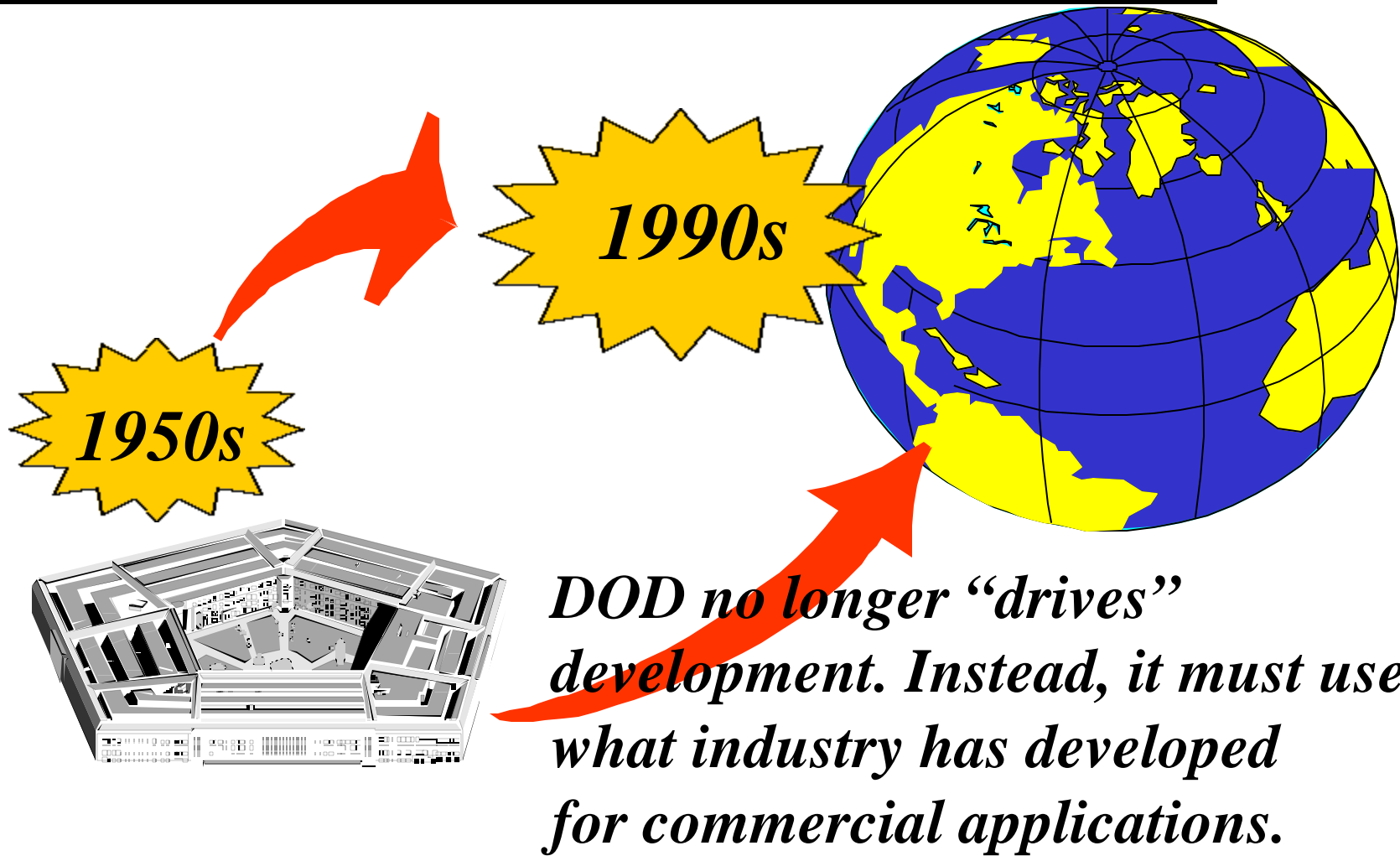
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Why We Must Rely on the Commercial Marketplace...



DEVELOPER & PRODUCER



BUYER & INTEGRATOR

An Open Systems Approach is...



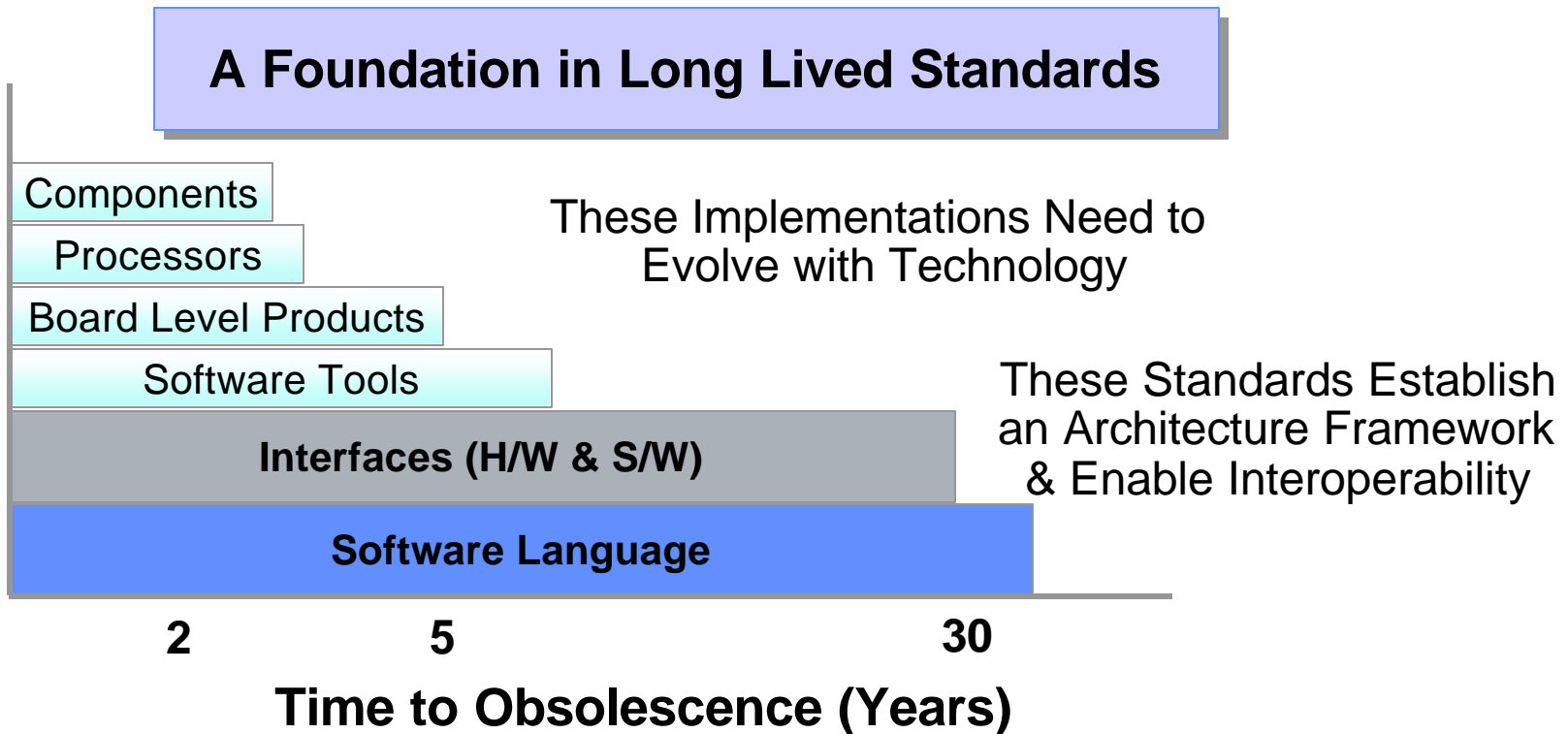
“...a business and engineering strategy to choose specifications and standards

- ☞ adopted by industry standards bodies *or*
- ☞ *de facto* standards (set by the market place)

for selected systems interfaces (functional and physical), products, practices, and tools.”

DOD 5000.2-R
23 March 1996

An Architectural Framework for Affordability



Source TI Presentation

Motivation for Standards Initiatives



- Work with Industry Consensus Standards Bodies to Address Critical Unique needs of weapon systems:
 - Lethality
 - Safety
 - Survivability and Fault Tolerance
 - **Real-Time, Deterministic Performance**
 - Harsh Environment
 - **Security** (Including Multi-level)

Goal: Ensure technical and system architecture building blocks are available for weapon system acquisitions.

Summary



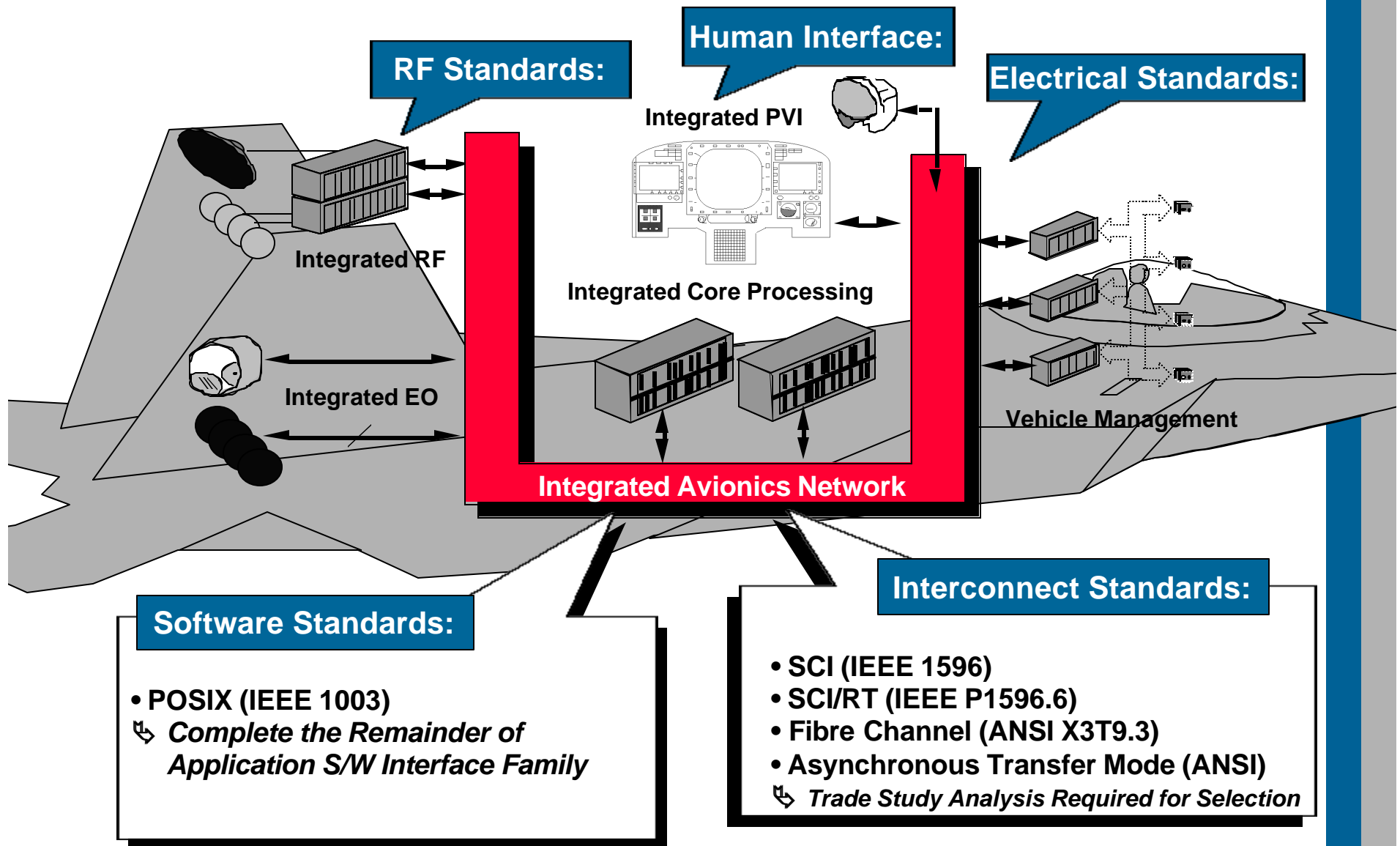
- Within the weapon systems community, balancing diversified interests is a challenge
- DoD seeks to achieve reduced total ownership costs and cycle times, enhanced interoperability
- Industry seeks to maintain intellectual property rights and achieve a return on investment
- Requires an environment of “trust”

If it isn't certified ... IT ISN'T !

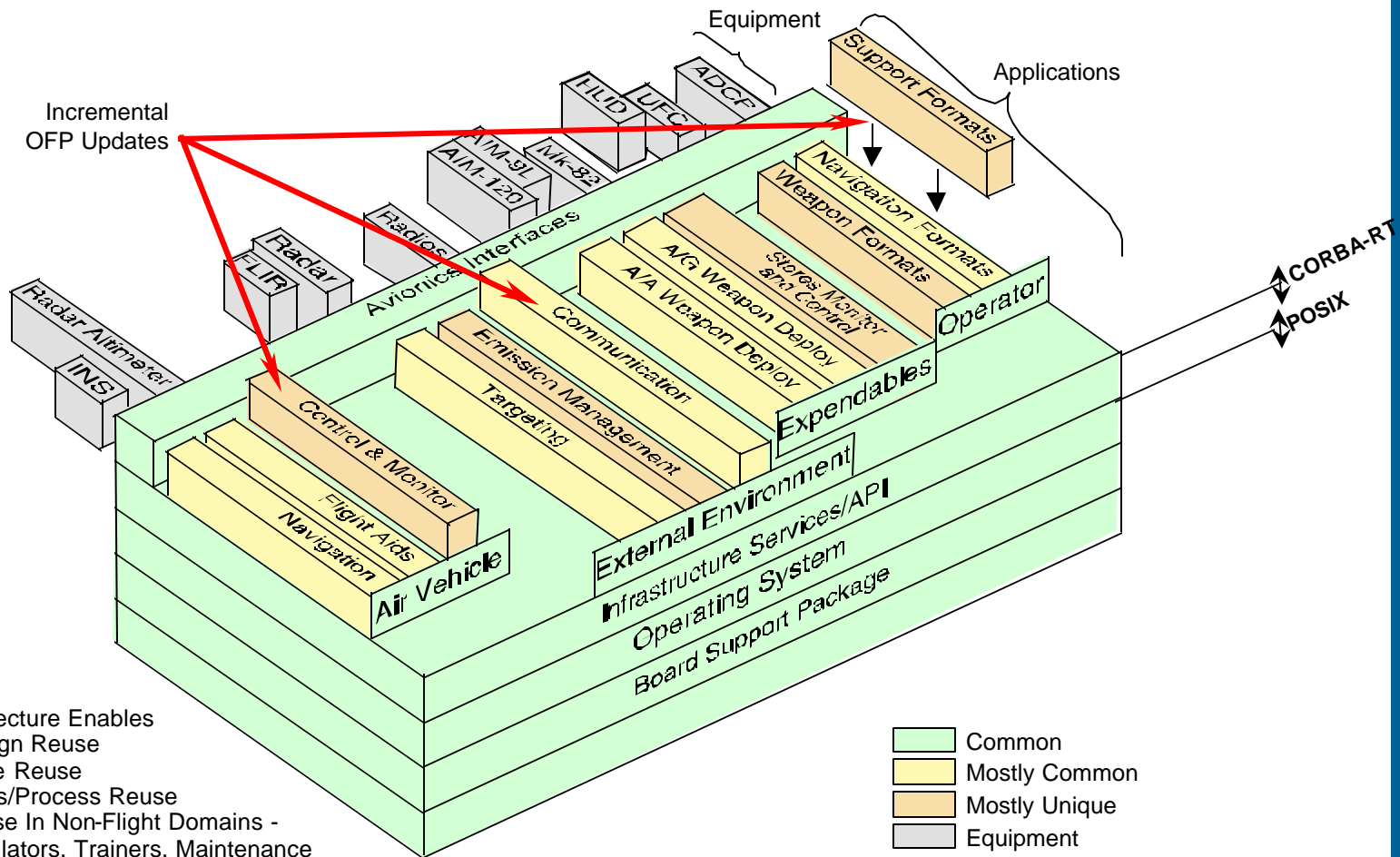


Backup

Open System Standards Application



Open Standards-Based Architecture Isolates Applications From Hardware



- Architecture Enables
- Design Reuse
 - Code Reuse
 - Tools/Process Reuse
 - Reuse In Non-Flight Domains -
Simulators, Trainers, Maintenance

- Common
- Mostly Common
- Mostly Unique
- Equipment

Relationship of Open System Standards to Market Acceptance

