USE OF MEASUREMENT IN MANAGING THE F/A-18E/F ACQUISIITON

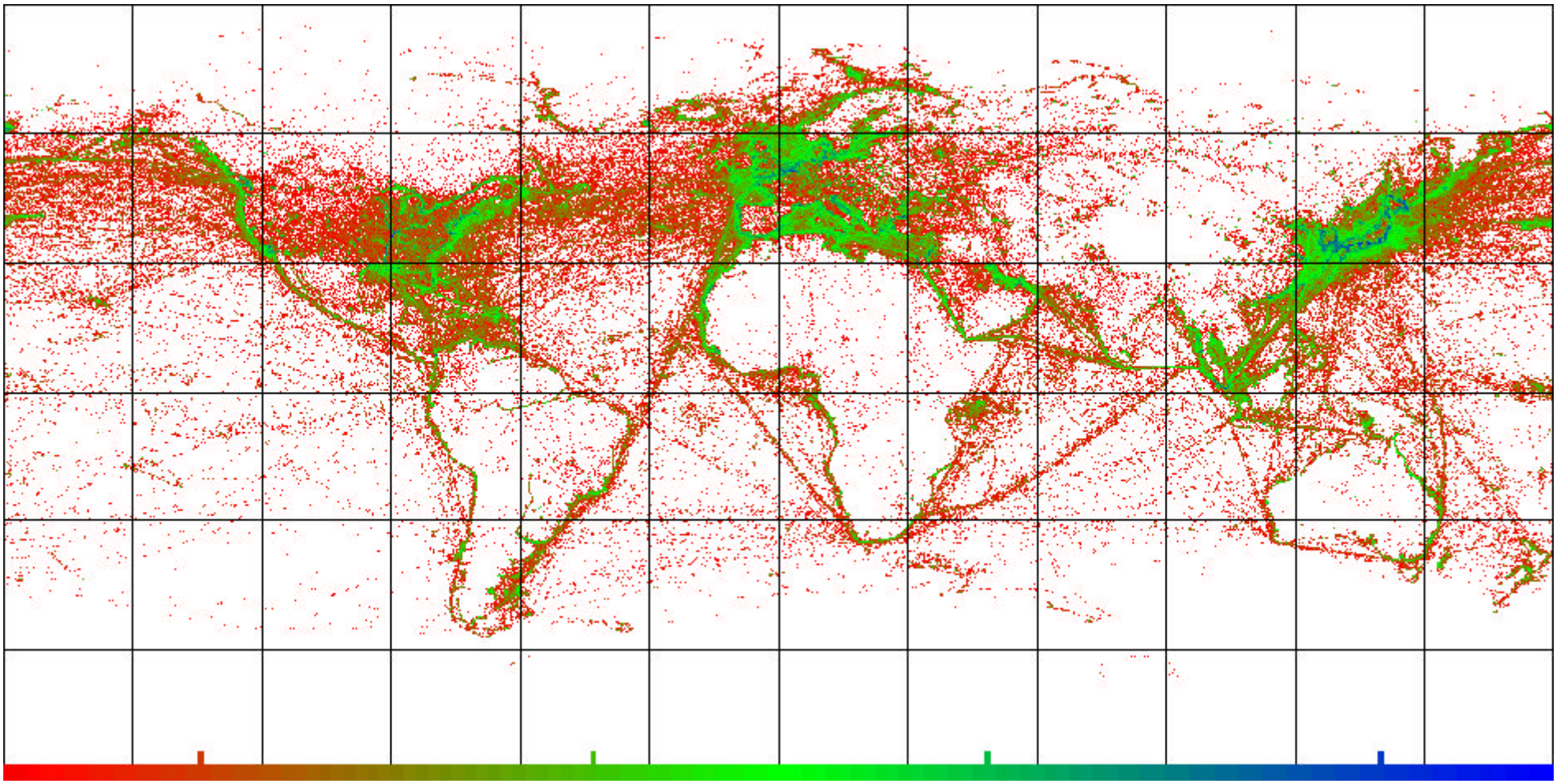
PSM CONFERENCE 20 JULY 1999

Rear Admiral Joe Dyer, USN

Commander, Naval Air Warfare Center, Aircraft Division

Naval Air Systems Command

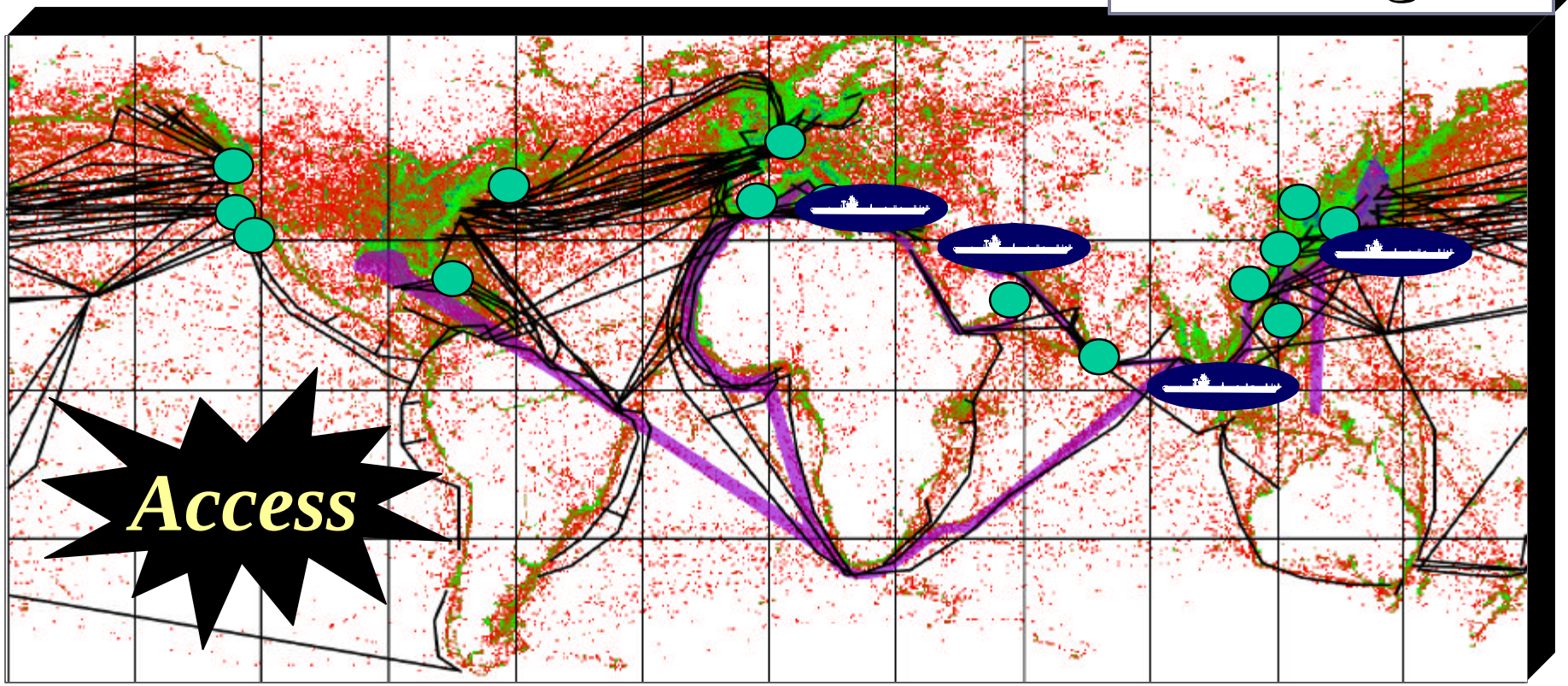
dyerjw@navair.navy.mil



(U) World wide survey of Electronic activity as derived from various sources.

Discerning the Future: Navy After Next

Size
Shape
Operate
Change

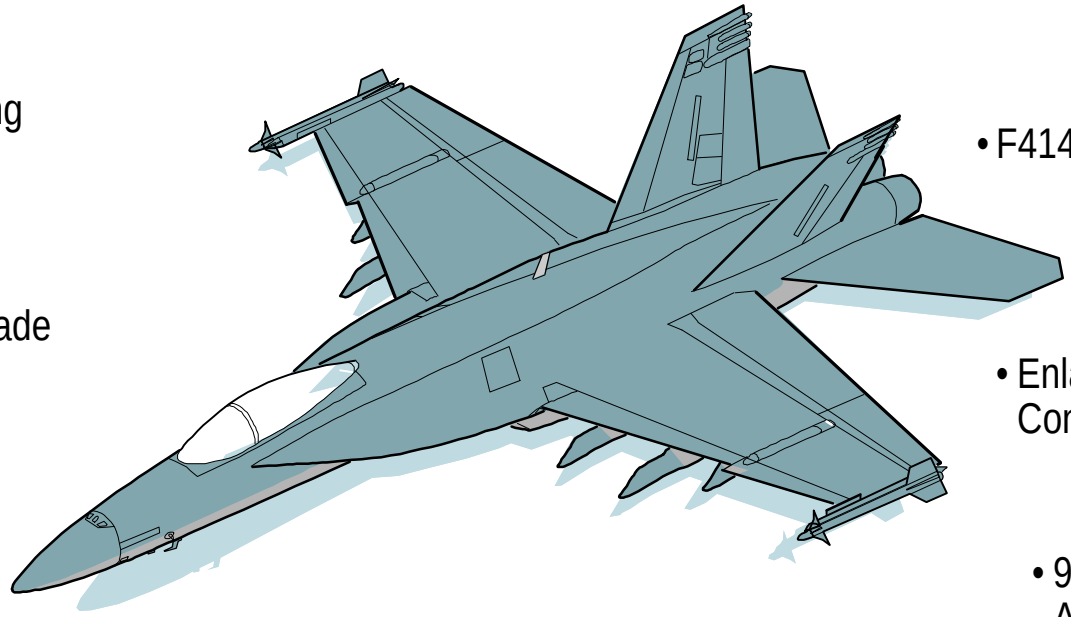


Utility = Combat Power x Access


WARFIGHTING
EFFECTIVENESS

F/A18E/F FEATURES

- Additional 3,600(E)/3,385(F) lb Internal Fuel
- Improved Inlet Design
- Dual Pressure Hydraulics
- Two Additional Wing Store Stations
- F414-GE-400 Engines
- Crew Station Upgrade
- Enlarged Wing and Flight Control Surfaces
- Growth Provisions
- 90% Common C/D Avionics
- Aerial Refueling Store Compatibility
- Survivability Enhancements
- Increased Composite Usage for Fuselage Skins



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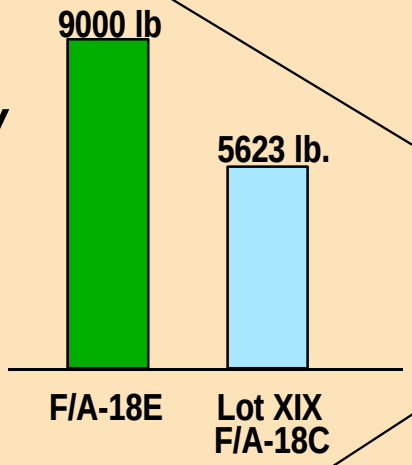
WHY THE F/A-18E/F?

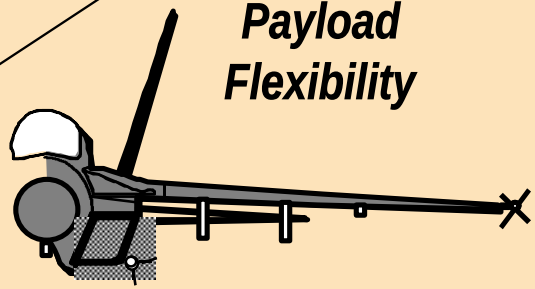
Increased Mission Radius

F/A-18E: Three 480 gal Drop Tanks
F/A-18C: Three 330 gal Drop Tanks
Specification Hi-Lo-Lo-Hi Mission
Four 1,000 lb Bombs

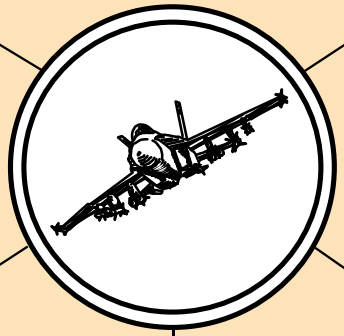
Recovery Payload



Payload Flexibility



- 2 Additional Stations



Improved Survivability

- Reduced Vulnerable Area
- Improved ECM
- Improved Expendables

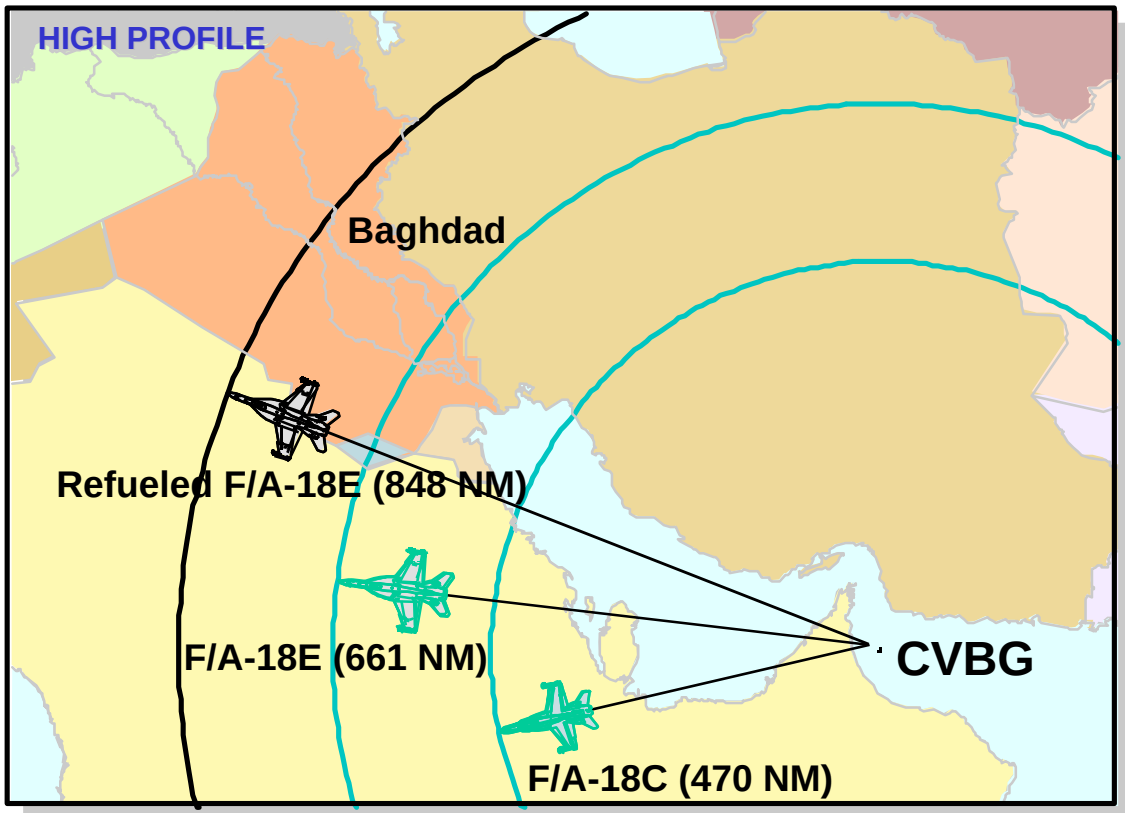
System Growth

- 17 Cu. Ft. Volume
- 19.6 kVA Electrical Power
- 9 kW Cooling Air
- 15 kW Liquid Cooling

E5R.030803.06/V1
RHS604191

F/A-18E/F PROVIDING TANKING CAPABILITY FOR IN-FLIGHT REFUELING

F/A-18E/F INCREASED RANGE PROVIDES IMPROVED TARGET COVERAGE



40% greater range for identical F/A-18C configuration

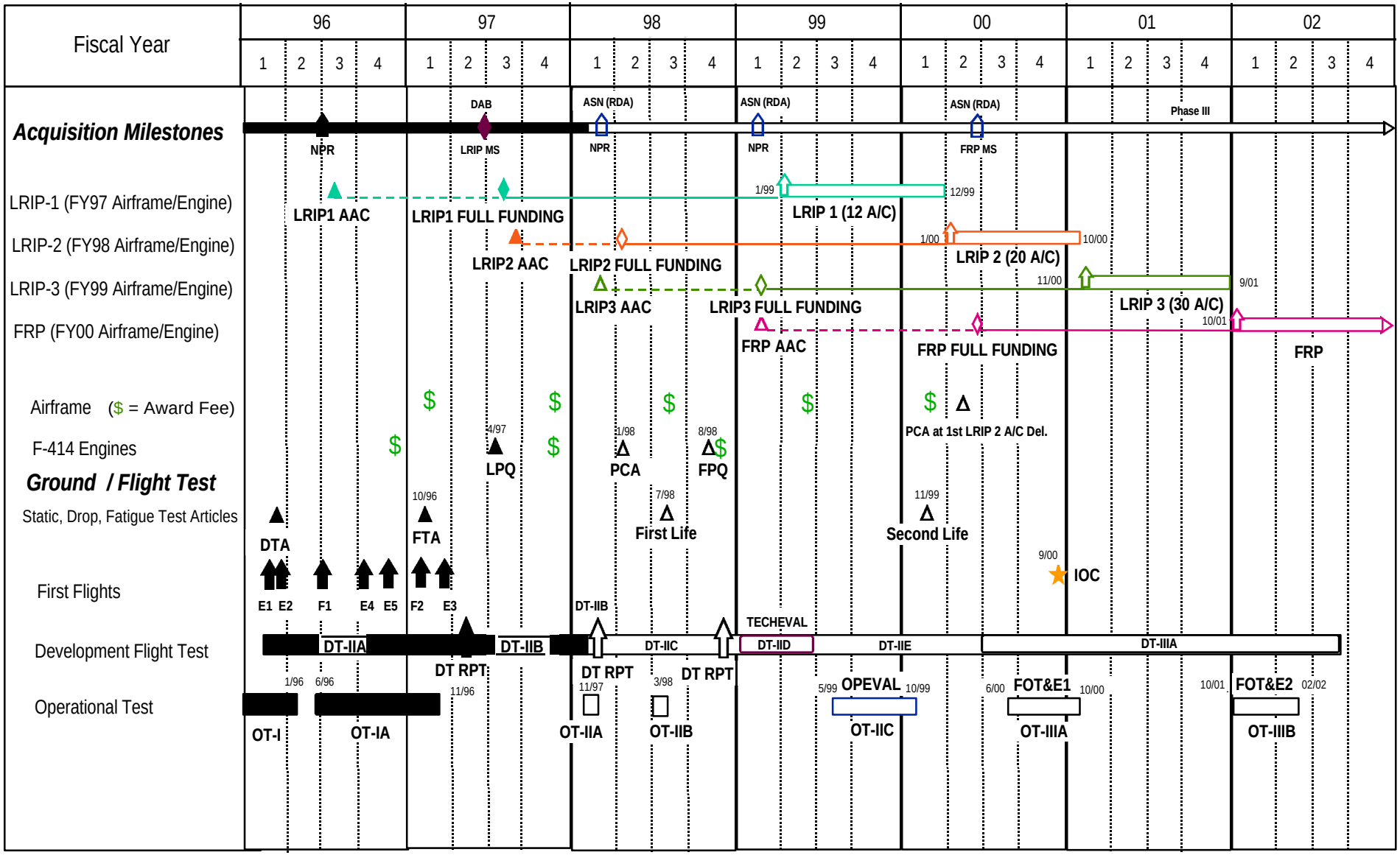
- USS Carl Vinson's air wing, if it was an F/A-18E/F air wing, could have initiated *Operation Desert Fox* at least 24 hrs earlier
- Restores organic tactical tanker capability to battle group

Increased Penetration to Shape the Battle Space

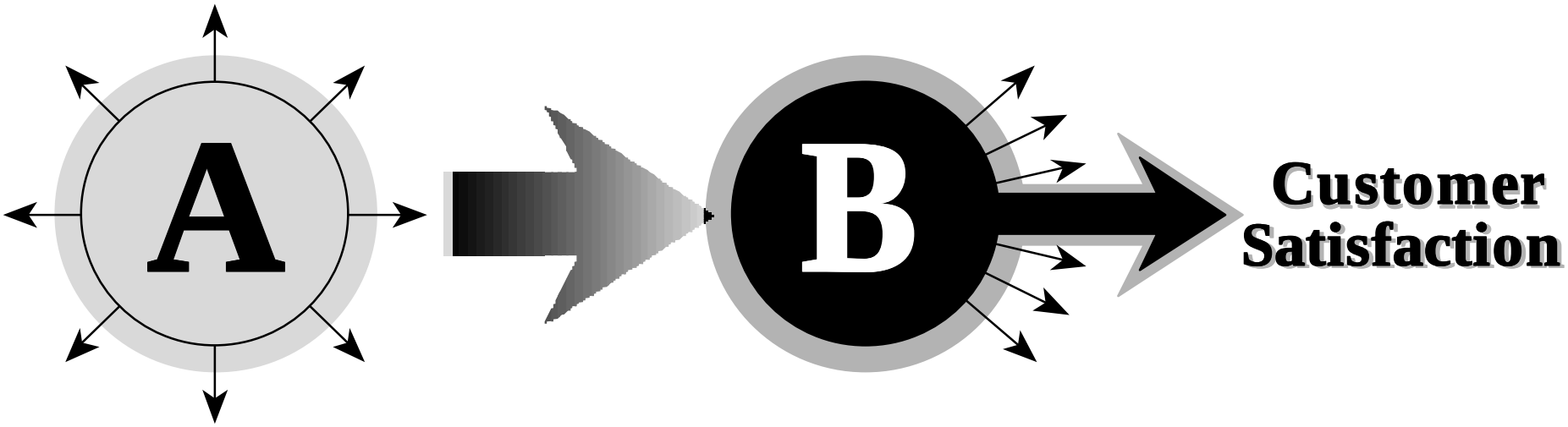
PEO(T), F / A-18 IPT

F/A-18E/F Program Schedule

TEAM HORNET



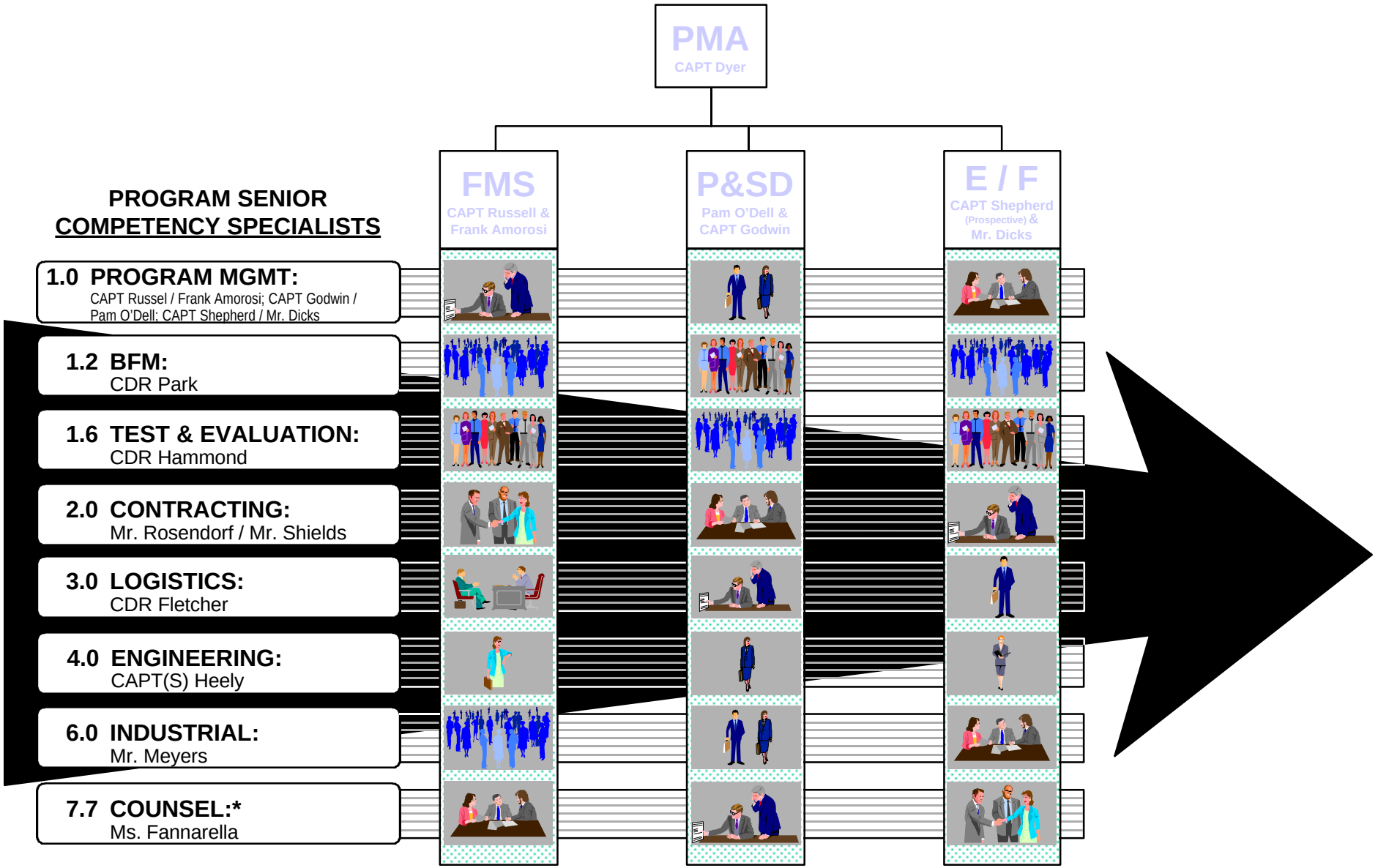
VECTORS / COMMON VISION



AXIOMS FOR F/A-18E/F SUCCESS

- UNDERSTANDABLE VISION / GOALS
- OPEN COMMUNICATIONS
- GOVERNMENT - CONTRACTOR **INTEGRATED PRODUCT TEAMS**
- COMMON, CURRENT, ACCESSABLE INFORMATION
- “APPLIED ENGINEERING TOOLS”
- RISK MANAGEMENT

F/A-18 INTEGRATED PROGRAM TEAM

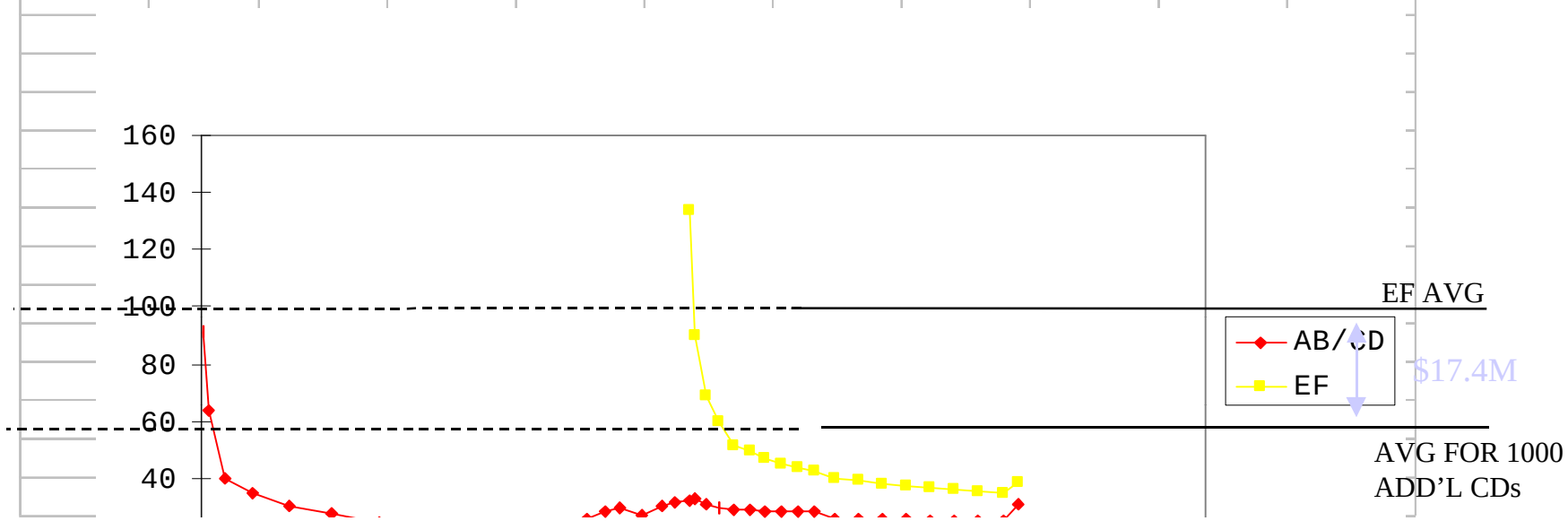


* **Due to limited resources, this Senior Competency Specialist has a "staff" role and differs in some respects.**


F/A-18F
COST

F/A-18 AB/CD VS EF UNIT RECURRING FLYAWAY COST
(PLUS 1000 ADDITIONAL CD'S)

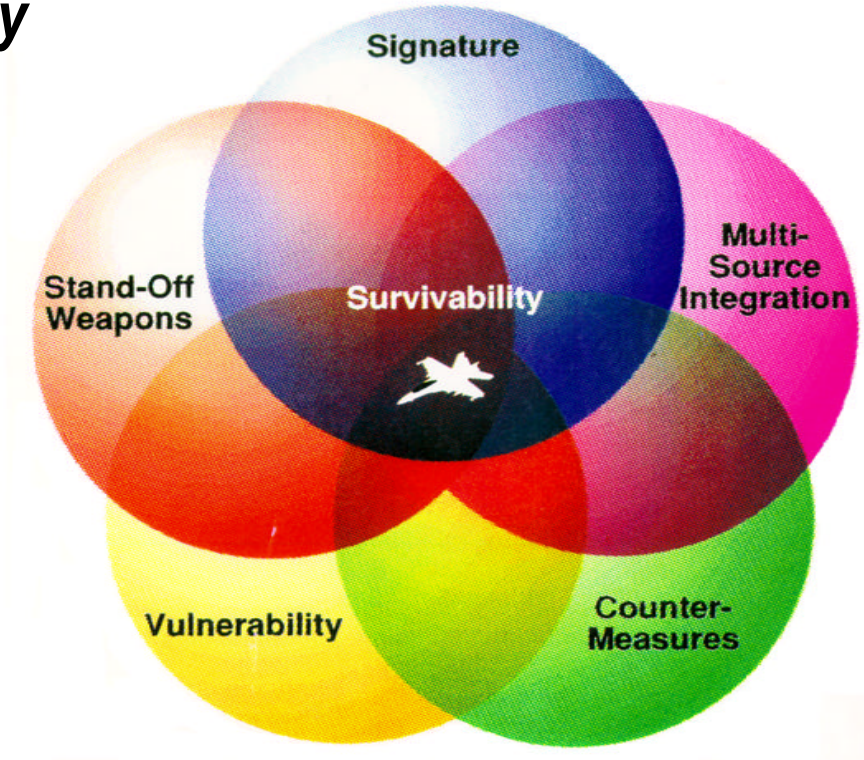
		1452.0	1452.0	1452.0	1452.0	1452.0	1452.0	1452.0	1452.0	1452.0
		5	24	54	93	138	186	234	282	330
	EF	1457	1476	1506	1545	1590	1638	1686	1734	1782
	EF	133.5	89.9	68.8	59.9	51.7	49.5	47.0	45.2	43.8
	AB/CD	4	21	73	155	262	392	533	675	799
	AB/CD	91.5	63.5	40.1	35.0	30.2	27.4	24.6	23.7	23.5



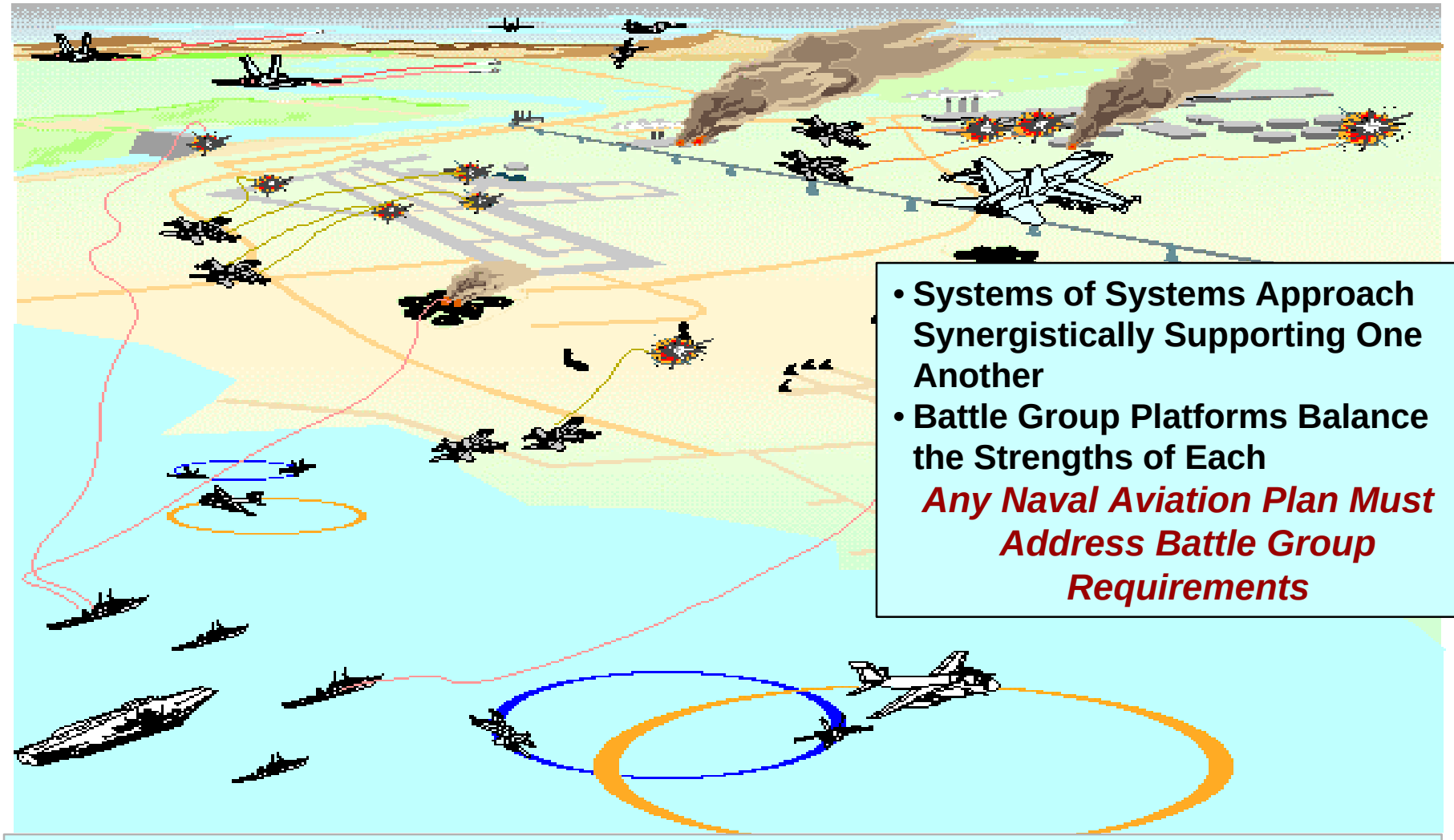
E/F 0 500 1000
AB/CD 500 1000 1500 2000 2500

F/A-18E/F
An Integrated Approach to Survivability

Affordability



AN F/A-18E/F EQUIPPED AIR WING PROVIDES A FIRST DAY SURVIVABLE STRIKE CAPABILITY

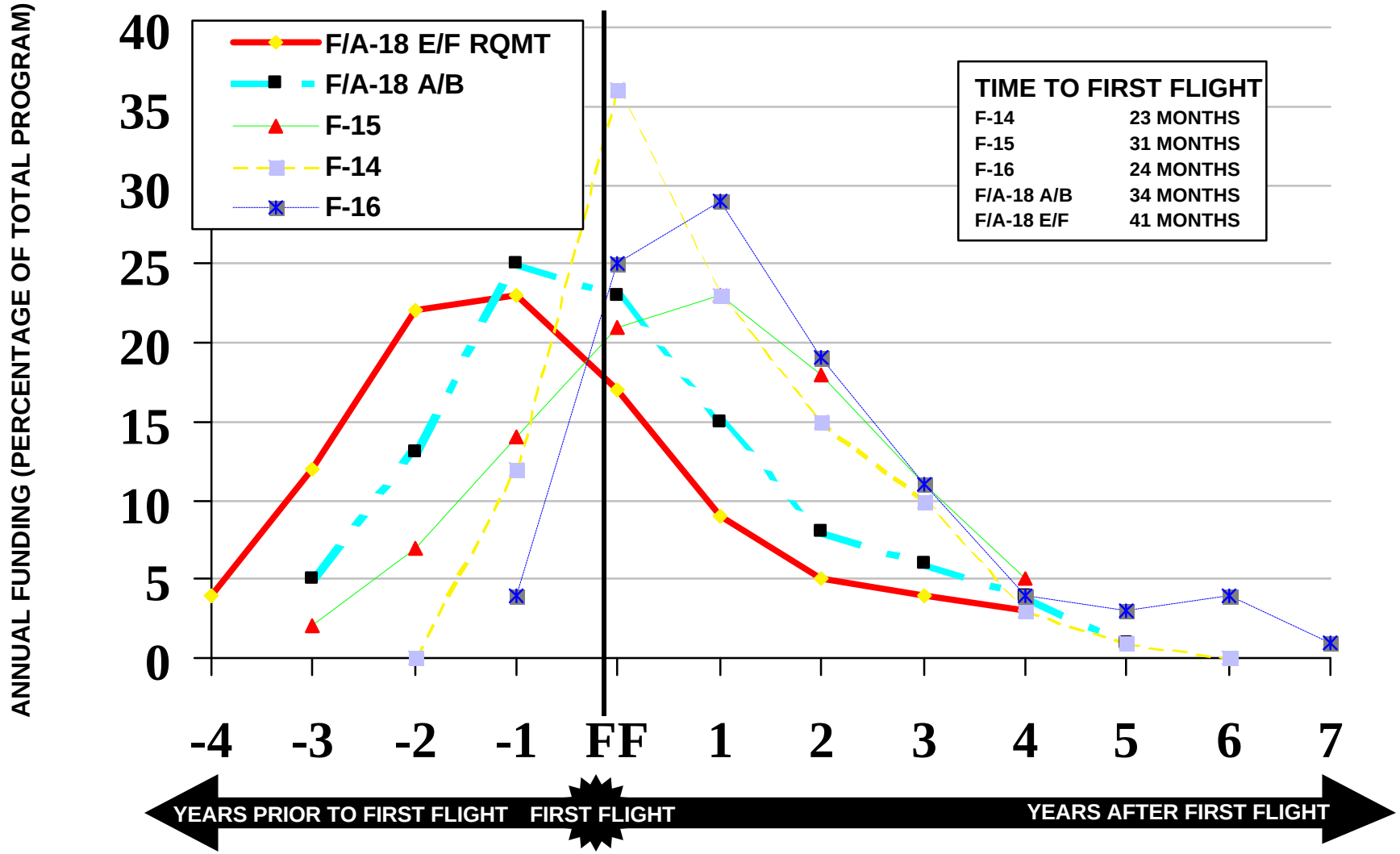


- Systems of Systems Approach Synergistically Supporting One Another
- Battle Group Platforms Balance the Strengths of Each

Any Naval Aviation Plan Must Address Battle Group Requirements

The Carrier Battle Group: "Ready on Arrival"

ANNUAL FUNDING PROFILES



Affordable Readiness

General Approach

Must Maintain Dual Focus

- **Mission / Warfighter Requirement**
- **Understand and Lower Ownership Cost**

Ownership Costs

- Manpower
- Material
- Infrastructure

Performance Measures

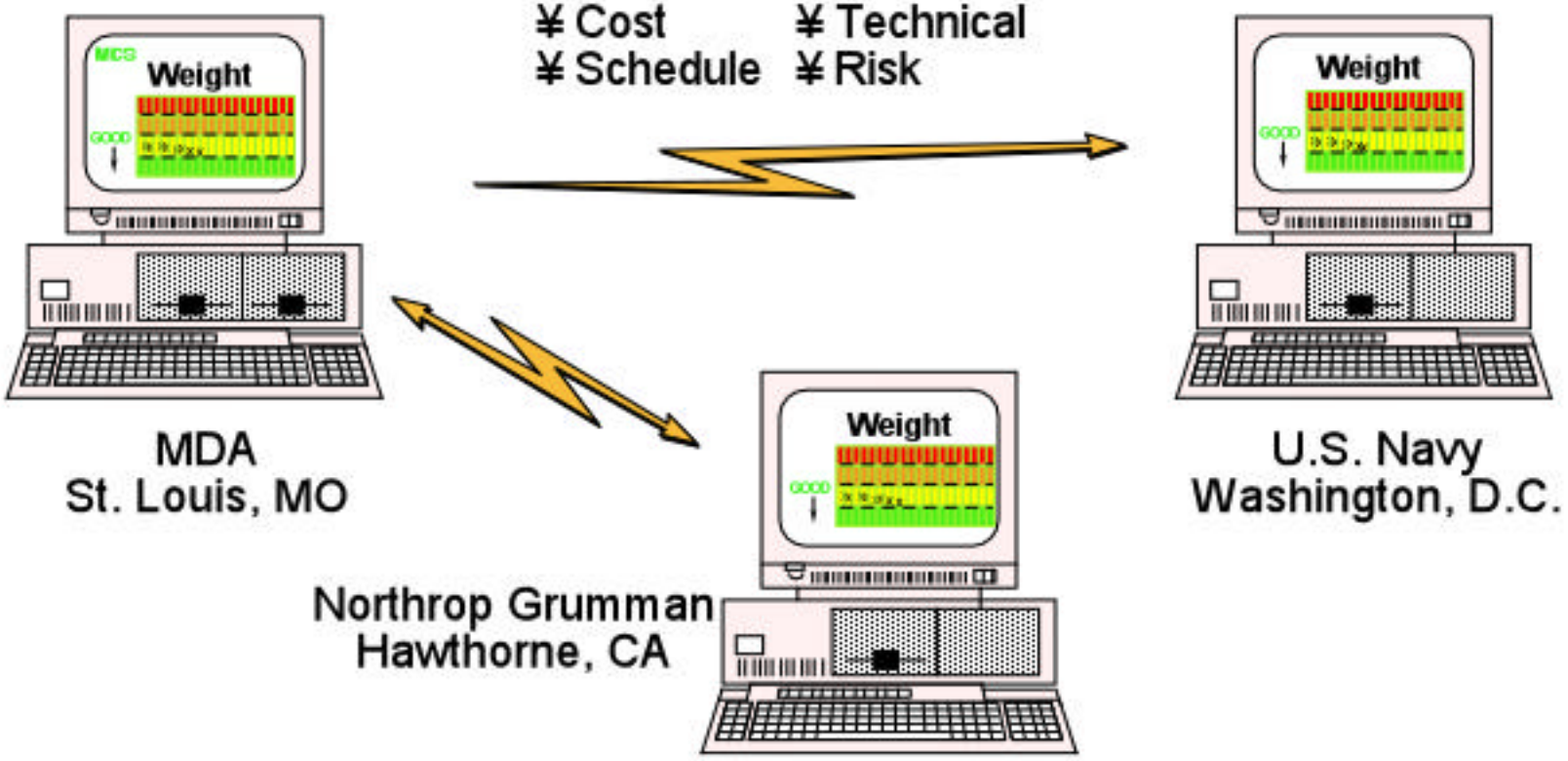
- **Readiness**
- **Availability**
- **Operating Time**
- **Turn-Around-Time**
- **etc.**

Objective: Meet Required Mission Performance (NOT Maximized Performance) at the Lowest Ownership Cost

Integrated Management Information and Control System (IMICS)

Level I - VI Team Performance Metrics

¥ Cost ¥ Technical
¥ Schedule ¥ Risk



On Line, Near Real-Time Communication

EARNED VALUE

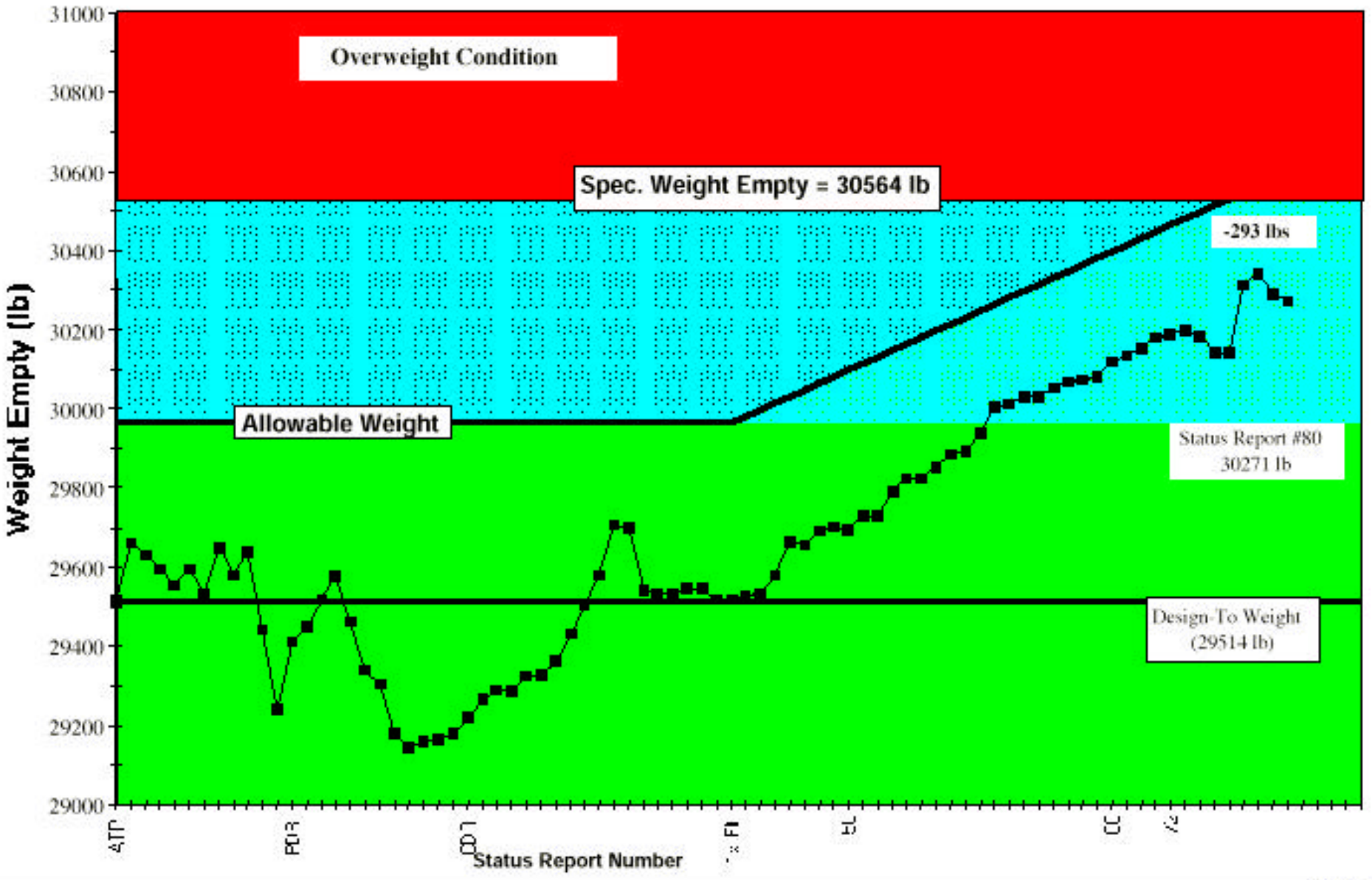
– *Airframe*	*Engine*	*Total Program*
CPI = 1.02	**CPI = 0.94**	**CPI = 1.00**
SPI = 0.99	**SPI = 0.99**	**SPI = 0.99**

~ *533 lbs Under Spec Weight*

–TCPI: 0.94

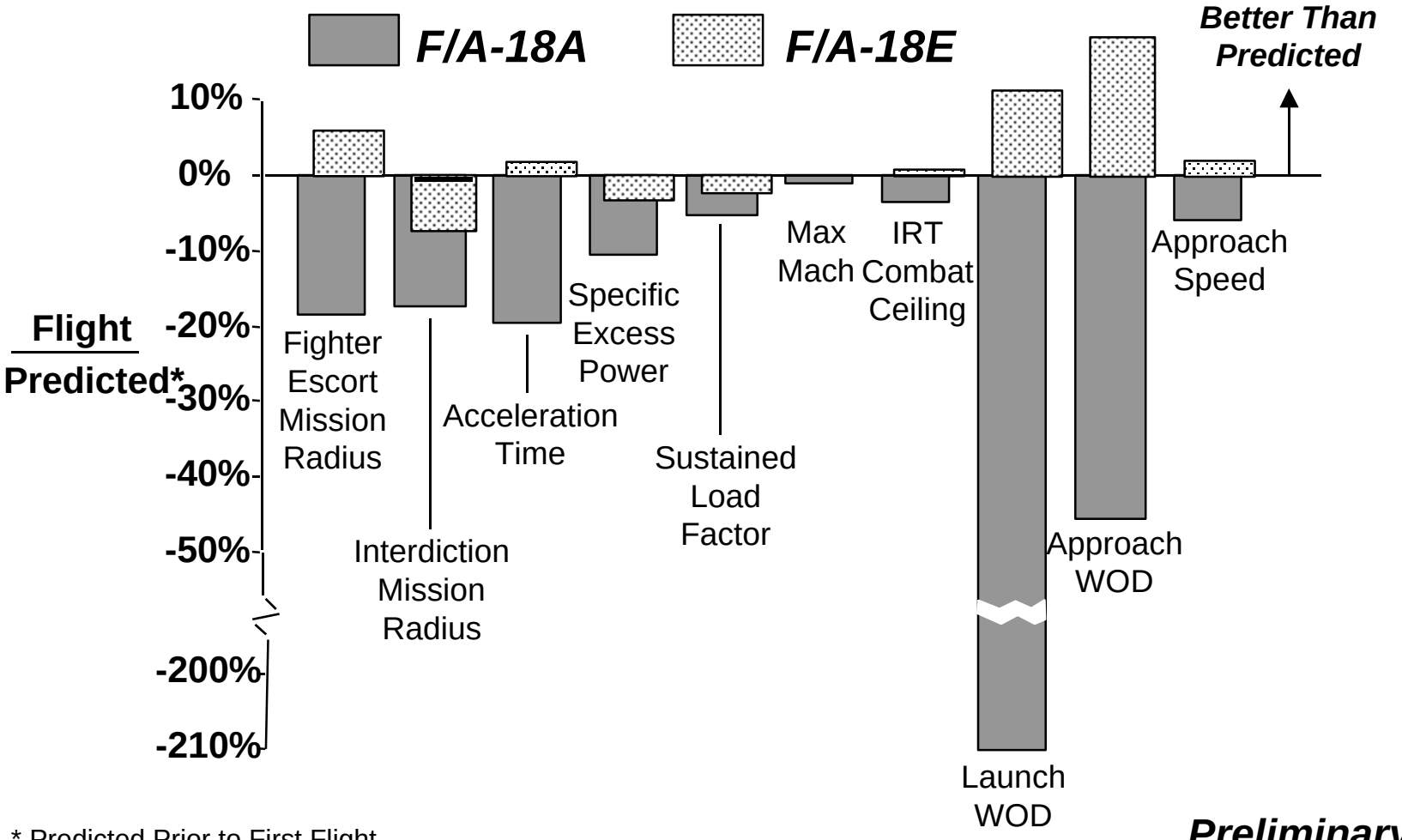
- **Flight Test Results Consistent with Predictions**
- **On Cost, On Schedule, Achieving Technical Performance**

F/A-18E Weight Empty Trend



PREDICTION Vs FLIGHT

Flight Vehicle Performance



* Predicted Prior to First Flight

Preliminary

Performance Flight Evaluation Plan Reduced by 60 Flights Based on Excellent Agreement Between Prediction and Flight Test

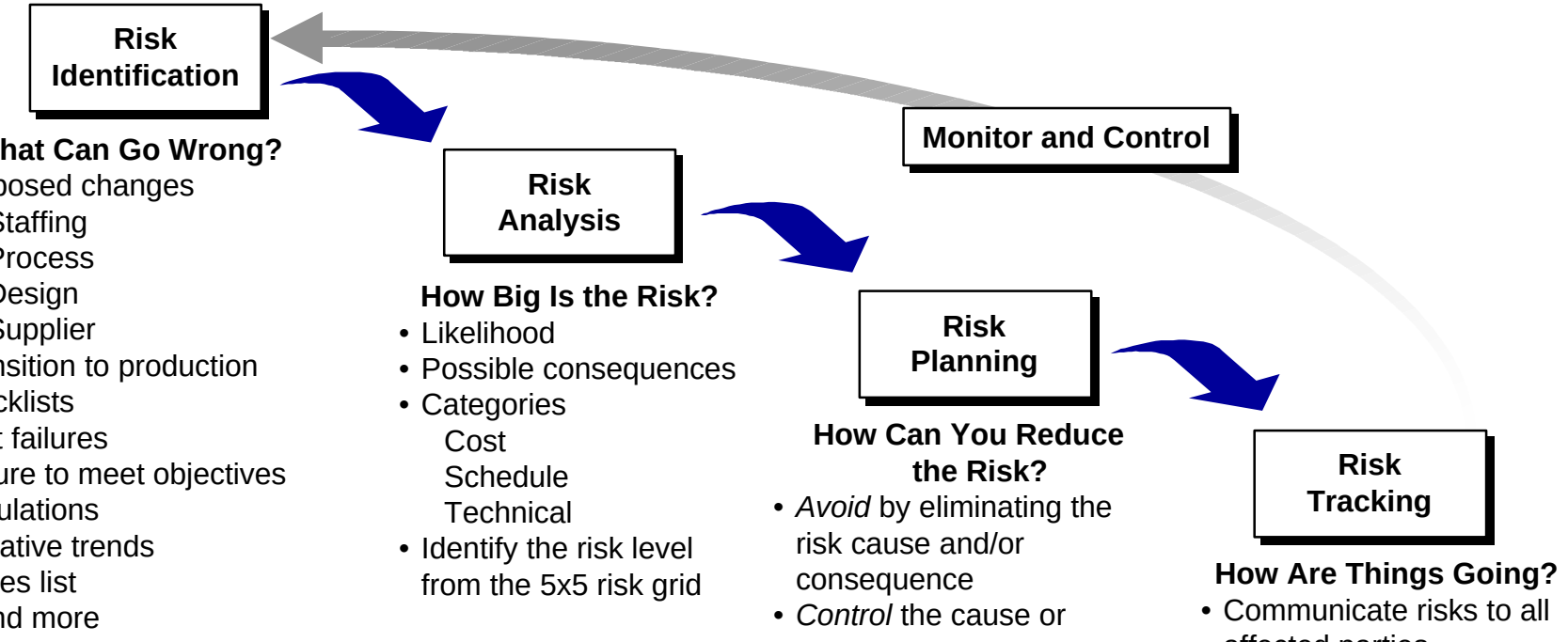
OTHER PROGRAM TOOLS...

- AWARD FEE TYPE CONTRACT
- NETWORK / CRITICAL PATH SYSTEM
- SINGLE DEFICIENCY DATABASE MANAGEMENT SYSTEM
- INTEGRATED TEST TEAM (ITT)
- INTEGRATED PRODUCT DEFINITION (IPD) / CONCURRENT ENGINEERING
- UNIGRAPHICS
- PRORAM INDEPENDENT ASSEMENT
- GREYBEARDS
- EARLY OPERATIONAL ASSESSMENT

DEVELOPMENTAL RISK

F/A-18E/F Risk Management Process

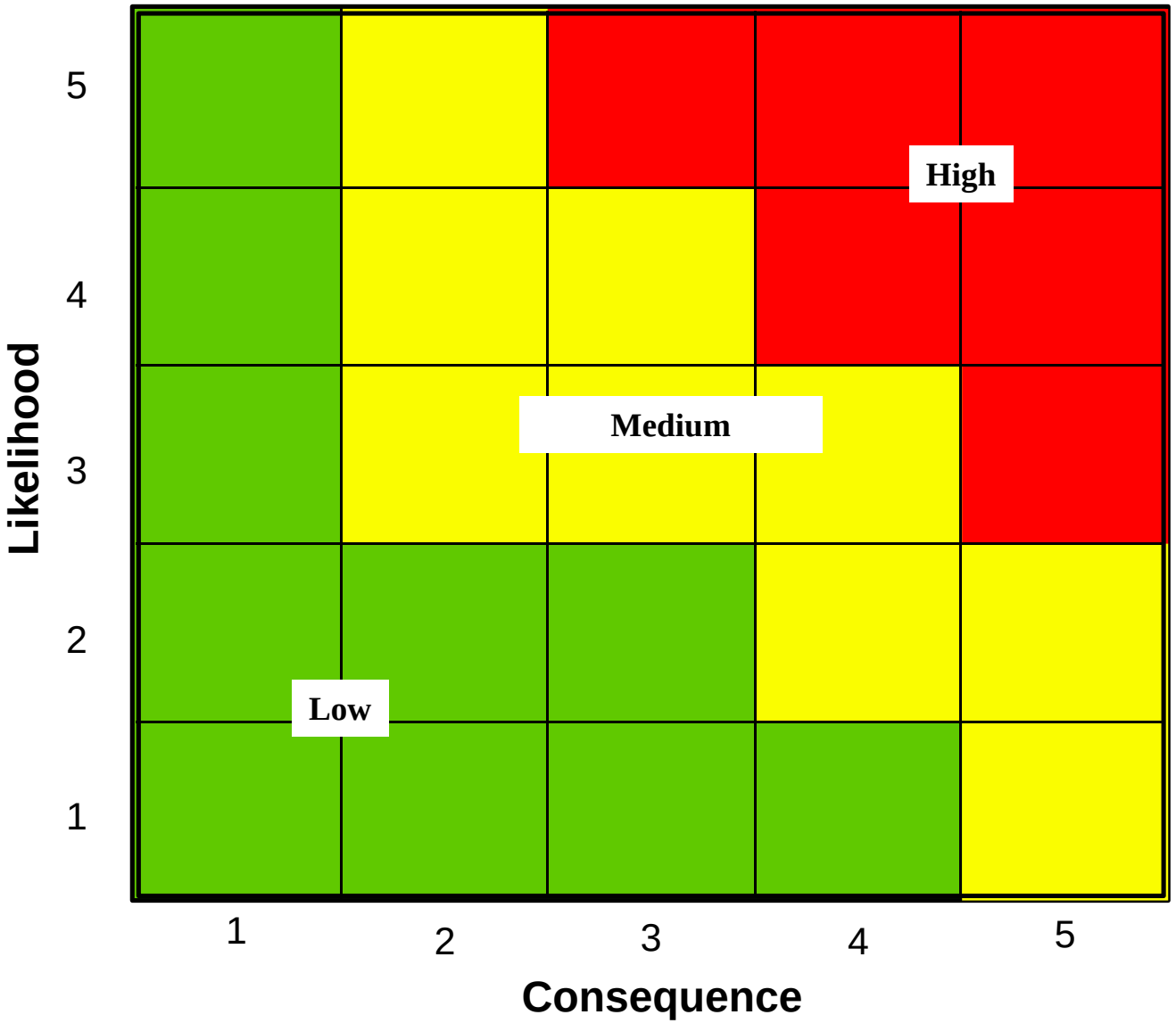
Risk: An undesirable situation or circumstance which has both a probability of occurring and a potential consequence to program success; risks are normally associated with uncertainties
Risk Management: An organized, systematic decision-making process that efficiently identifies risks, assesses or analyzes risks, and effectively reduces or eliminates risks to achieving program goals



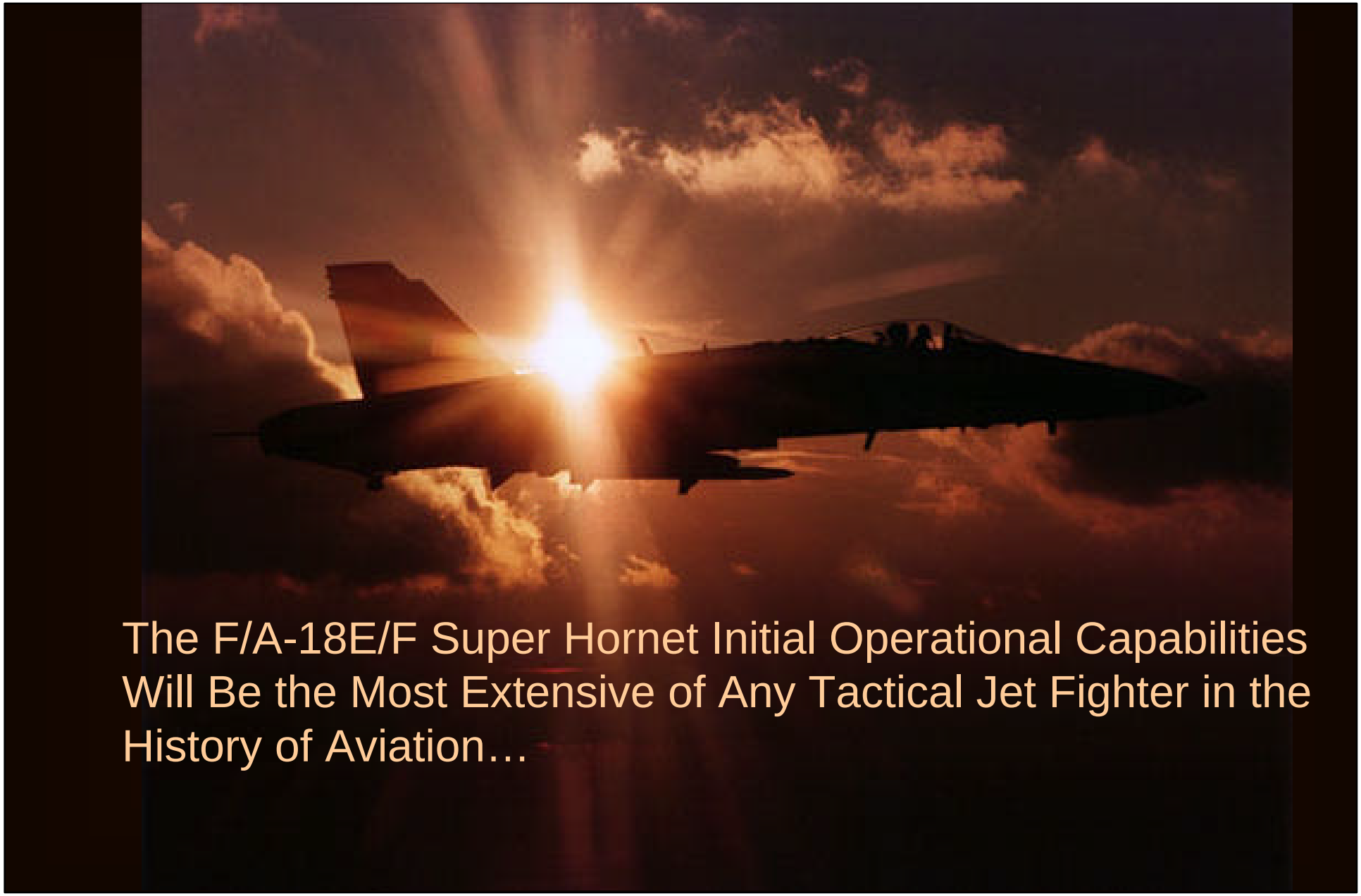
Questions to Consider

- Does the risk statement describe a future event or situation?
- Is the source or cause of a risk based on factual evidence?
- Do other teams need to know about the risk?
- Is the risk reduction plan adequate? Does the plan address the source and/or the consequence of the risk?
- Is the next level of management aware of the risk?

F/A-18
RISK ASSESSMENT



CONCLUSION



The F/A-18E/F Super Hornet Initial Operational Capabilities Will Be the Most Extensive of Any Tactical Jet Fighter in the History of Aviation…


QUESTIONS / COMMENTS?