USAF/Industry Partnership

Brig Gen Mike Worden
Director of Operational Plans
and Joint Matters

2 June 2005
Changing Environment: Then, Now, and Tomorrow

National Strategic Focus

- High
  - Berlin Airlift
  - Cuban Missile Crisis
  - Invasion of Afghanistan
  - Fall of Soviet Union
  - Grenada
  - Fall of Soviet Union
  - Middle East?
  - Central Asia?
  - WMD?
  - Terror?
  - Failed States?

- Low
  - Vietnam War
  - Korean War
  - Rogue States
  - El Dorado Canyon
  - Terror/Irregular

Time and Strategy

- 1945
- 1990
- 2005
- 2025

- Near-Term
  - Iraq Freedom
  - GWOT
  - 9/11

- Long-Term
  - Traditional?
  - Irregular?
  - Catastrophic?
  - Disruptive?

- OSD Challenge Areas

- Mutually Assured Destruction
- Flexible Response
- Deterrence, Presence, Crisis Response, Reconstitution
- Protect, Prevent, Prevail Shape, Respond, Prepare

Integrity - Service - Excellence
Transforming the Force
Next 5 Years

Innovative Concepts
- CONOPS / CRRA
- Programming / Acquisition Needs
- Future Total Force
- AF Battle Labs

Exploiting Technology
Applications
- Precision Munitions
- Stealth
- Directed Energy / ABL
- Battle Labs
Network Centric
- Air Operations Center
- Link 16
- C2 constellation
Mixing Old and New
- CAS w/ heavy bombers
- NT ISR / Strike
- Special Ops

Modernizing the Force
Recapitalization
Funding Trends
Our Future

Transformed Future Force
- Global Military Leverage
- Control Air and Space
- Exploit the Mediums
- Enables the Joint Mission
- Smaller yet More Capable

Effective Partnership – USAF and Industry

Integrity - Service - Excellence
Innovative Concepts:
CONOPS ... Drives All We Do

Global Power - Rapid Strike
Global Reach - Global Mobility
Global Vigilance - Persistent ISR

Joint Vision

USAF Vision

Air & Space Expeditionary Forces
- Global Strike CONOPS
- Homeland Security CONOPS
- Global Mobility CONOPS
- Global Persistent Attack CONOPS
- Nuclear Response CONOPS
- Space & C4ISR CONOPS

Agile Combat Support

Integrity - Service - Excellence
Innovative Concepts: Required Capabilities to Combat Effects

**CAPABILITY AREAS**

- Global Strike
- Agile Cbt Spt
- Global Mobility
- Space & C4ISR
- Global Security
- Nuclear Response
- Net Centric Enterprise

**AF & DOD Corporate Process**

- CRRA Roadmaps
- Planning, Programming, POM
- PBDs
- PDMs

**CONOPS**

- CONOPS
- Program
- CRRA
- Budget
- Fielded Capabilities
- People, Organizations, Equipment, Training
- Combat Effects
- Feedback

**Global Strike**

- Global Persistent Attack
- Homeland Security
- Global Mobility

**INTEL**

- SURV & RECCE
- C2

**NET CENTRIC ENTERPRISE**

- FORCE APP, PROJ, PROT
- EST & GENERATE
- CREATE & SUSTAIN

**DEFENSE PLANNING SCENARIOS**

- 1 2 3

**INTEL SURV & RECCE C2**

**Plan**

**Execute**

**Feedback**

**Integrity - Service - Excellence**
Innovative Concepts:
Challenges: Capability Needs

- Global information Grid
  - C2 Battle Management
- Air Refueling
  - Tanker recapitalization
- Airlift
- Information Operations
- Spacelift
  - Operationally Responsive Spacelift
- Joint Warfighting Space
  - Counter-space
- Close Air Support
Innovative Concepts:
Future Total Force

We have always built the future around the next generation fighter technology.

How many we buy is what is being debated in the current QDR.
Innovative Concepts:
FTF ... Exp & Tech vs. Downsize

Smaller Force...
- Integrate with ARC
- 25% Fewer Fighters
- Divest less capable fighters to help fund recapitalization

But More Capable!
- More reliable
- Higher crew ratios
- 100% Precision Guided Munitions Capable
- Predominately Low Observable
- Improved Sensors
- Networked
Innovative Concepts: USAF Battlelabs
Exploiting Technology: Applications - Precision Engagement

**World War II**
1,500 B-17s
One target – 9000 bombs
3,300 ft accuracy

**Vietnam**
30 F-4s
One target – 176 bombs
400 ft accuracy

**Desert Storm**
1 F-117
2 targets – 2 bombs
10 ft accuracy
Clear night

**Today**
1 B-2
80 targets – 80 bombs
All weather

**The Future**
1 B-2: 80 – 240 Small Diameter Bombs
2 x F/A-22: 16 SDBs – 16 targets
+ Provides ISR / Counter Air

- B-2
- F/A-22
- GBUs
- SDBs
Exploiting Technology:
Applications – Stealth
Improving Future Force Performance

Current Force

Future Total Force

Effective Threat Radii

FTF modernization improves capability by increasing access, availability, accuracy and payload with significantly reduced force size

FTF modernization improves capability by increasing access, availability, accuracy and payload with significantly reduced force size

PB05 Plan

FTF Relative Kill Potential

Kick Down the Door Phase
Decisive Operations Phase
Primary Mission: Kill Ballistic Missiles (BMs) during boost phase

Secondary Missions:
- Early BM launch warning
- Launch site location
- Cueing to BMD systems
- Impact point prediction
Exploiting Technology: Network Centric – AF WFHQ & AOC

- Air and Space Operations Centers
  - Distributed; smaller footprint
  - Human Engineering
  - Ability to replicate data
  - Deployment package

Legend:
- Yellow: Falconer AOC
- Red: Tailored Falconer AOC
- Purple: Functional AOC
- Blue: No AOC

Notes: Solid colored regions equate to the Strategic Planning Guidance critical regions. The regional headquarters symbols reflect their general areas of responsibility, not their physical location.
Exploiting Technology: Network Centric – C2 Constellation

Mobile Air
- All ANW Aircraft
- All Link 16 Fighters
- JNTC Node
- TACP
- LandWarNet
- MAGTF
- Air & Missile Defense
- E-10, E-8, E-3, E-2, ABL, ACS
- CSG/ESG
- Aegis

Mobile Land
- DCGS-A
- CAOC
- Teleports
- DCGS-AF
- GIG-BE

Mobile Sea
- DCGS-AF
- CFLCC
- CFMCC
- MCM
- CENTRIX
- ALLIES
- GH, BAMS

Space
- Narrowband UFO/MUOS
- Interim Polar
- Interim Polar
- TSAT/AEHF
- Constellation Net
- Commercial CWSP, INMARSAT, Iridium
- Interim Polar

LandWarNet
- LandWarNet
- FORCEnet
- Constellation Net
- MAGTF C2

Air & Missile Defense
- Aegis
- E-10, E-8, E-3, E-2, ABL, ACS
- CSG/ESG

Network Centric – C2 Constellation

Satellites
- Teleports
- GIG-BE
- MCM
- ALLIES
- WGS
- DCGS-AF
- DCGS-AF
- DCGS-A
- DCGS-A
- Teleports
- DCGS-AF
- DCGS-A
- DCGS-A
- Teleports
Exploiting Technology:
Network Centric – Netting F-15s w/Link 16

Link 16 brings
- Air Tracks from AWACs
- Position reports from other fighters
- Fighter sensor cues
- Pilot BDA reports out
- Imagery to fighter

Data Linked
Mission Tasking
Sensor Targets

No Helmet Fires!
Exploiting Technology: Mixing Old with New

- New Capability for Legacy Platforms
- Close Air Support w/heavy bombers
- Special Operations
Incoming SIGINT intelligence from Navy SSN operating in the area indicates active terrorist operations in the vicinity. 0800Z031222.

SIGINT report confirmed by most recent space imagery collection. 0800Z031222.

All Source Intelligence indicates that an enemy facility is present in the vicinity of FN8646.

Data Gathered from NSA intercepts, Group websites, and space imagery show terrorist activities in the area, but nothing yet conclusive. 0800Z031220.

All Source Intelligence indicates that an enemy facility is present in the vicinity of FN8646.

Data Gathered from NSA intercepts, Group websites, and space imagery show terrorist activities in the area, but nothing yet conclusive. 0800Z031220.
Enemy facility located – occupants unknown, no other intel available.

Latest Imagery:

PBA Analysis:
Facility used for bomb-making and Leadership meetings.

Nearest sensors:
Global Hawk (20 min ETA)
E-10 on orbit in vicinity
SOF team (2 hours ETA)

RECOMMENDATIONS:

- Retask Global Hawk
- Move E-10 to support
- Notify SOF team
- Cross-cue sensors
Modernizing the Force: Recapitalizing, the History

Air Force Total Obligational Authority

End of Cold War Peace Dividend
Off-set Strategy Cut Platforms Buy PGMs

Air Force “modernization bathtub” result of a number of intentional decisions, but currently we are facing some unintended consequences...
Modernizing the Force:
Recapitalizing, a Joint Issue

<table>
<thead>
<tr>
<th>DoD Equipment Ages (years)</th>
<th>2005</th>
<th>FYDP</th>
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</thead>
<tbody>
<tr>
<td>Air Force</td>
<td>2005</td>
<td>FYDP</td>
</tr>
<tr>
<td>Fighter/Attack Aircraft</td>
<td>17</td>
<td>20+</td>
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<tr>
<td>Bomber</td>
<td>30</td>
<td>35</td>
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<tr>
<td>Airlifter</td>
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<td>23</td>
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<tr>
<td>Tanker</td>
<td>42</td>
<td>45</td>
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<tr>
<td>Navy/Marine Corps</td>
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<td>Battle Force Ships</td>
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<td>17</td>
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<tr>
<td>Fighter/Attack Aircraft</td>
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<td>15</td>
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<td>Marine Corps Helo/Tilt-Rotor</td>
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<td>5</td>
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<tr>
<td>Ground Combat Vehicles</td>
<td>15</td>
<td>18</td>
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<td>Army</td>
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<td>19</td>
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<td>Helos</td>
<td>18</td>
<td>20</td>
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- Tankers are older than their crews and any other system in DoD inventory
- Air Force fighter fleet on average older than Navy’s battle fleet ships
- Almost one-fifth the tactical airlift fleet is under restriction or grounded

“The last KC-135 pilot has not yet been born.”
– Chief of Staff of the Air Force John P. Jumper

*Integrity - Service - Excellence*
Modernizing the Force: Recapitalizing, AF Mission Funding Trends

Reductions in combat forces and overhead have paid for increased emphasis on joint force enablers.
Modernizing the Force: Our Future - F/A-22, C-17, KC-X, and E-10

F/A-22

C-17

KC-X

E-10
Effective partnership: USAF and industry

- Downsizing—cost impacts
  - TOA concerns
  - High price per unit (B-2s, F/A-22?)
- Rapid, responsive acquisition
- Stay engaged with Battlelabs
  - Air Warfare, UAV, Info Warfare, C2, Air Mobility, Space, Force Protection
- Foreseeing and countering disruptive technologies
  - Anti-GPS, Anti-Stealth
- Robust system engineering—open architectures
- American industrial base with/vs. Europe
  - Conflict: A400M vs. C-130, F-15/16 vs. Eurofighter, tankers
  - Cooperation: JSF, Joint Ventures
- Integrating technical and non-technical
  - Decision support software, other tools
  - Effects-based assessment
    - F2T2EA
Joint Effects & CONOPS ... Drives All We Do

<table>
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<tr>
<th>AEF 1</th>
<th>AEF 2</th>
<th>AEF 3</th>
<th>AEF 4</th>
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<th>AEF 6</th>
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Global Vigilance  
Global Reach  
Global Power  

**Global Strike CONOPS**  
**Global Persistent Attack CONOPS**  
**Nuclear Response CONOPS**  
**Homeland Security CONOPS**  
**Global Mobility CONOPS**  
**Space & C4ISR CONOPS**

**Agile Combat Support CONOPS**

Integrity - Service - Excellence
See First
Understand First
Act First

AIR AND SPACE OPERATIONS
Back ups
USAF Fiscal Projections
FY 06-11

Change FY06-11
+ 3.7B
+ 0.4B
+ 6.3B
+ 6.0B

$Billions

FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11

Manpower
Infrastructure
Operations & Maintenance
Acquisition

Integrity - Service - Excellence
Recapitalize the Force
Production, Reduction drive AF Aircraft Age

Controlling average age requires balancing divestiture and procurement
Recapitalize the Force
Aging AF Aircraft

Simultaneous aging challenges across the entire fleet

Tankers: 41.4 years
Bombers: 29.8 years
Special Ops: 29.2 years
Tactical Lift: 25.2 years
ISR: 23.9 years
OSA/VIP/Other: 22.7 years
Command & Control: 19.1 years
CSAR: 18.8 years
Fighter/Attack: 17.6 years
Strategic Lift: 16.8 years
Recapitalizing the Force:
Five Decades of Shaping the Future

In the diagram, the following categories are represented with their respective percentages:
- **Joint Enablers**: 45%
- **Joint Combat Forces**: 24%
- **Foundations**: 31%

The categories are divided into five periods:
- FY62-70
- FY71-79
- FY80-88
- FY89-97
- FY98-06

Each category is further divided into subcategories:
- **Persistent C4ISR**: 33%
- **Global Mobility**: 31%
- **Rapid Strike**: 36%
- **Foundations**: 0%