



**Platforms, Development and Architecture
in the Lean Enterprise**

**Presented By
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Product Lifecycle Team
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Lt Col David S. Long, USAF Biography

- **Air Force Officer – 17 years**
 - **Experience**
 - **Two Product Centers (Acquisition Project Manager)**
 - **One Test Center (Flight Test Manager + Sq Maintenance Officer)**
 - **One Air Logistics Center (Maintenance Officer)**
 - **Air Staff (Program Element Monitor)**
 - **Education**
 - **BS Industrial Engineering**
 - **MS Engineering**
 - **Next Assignment (Fall 2008)**
 - **AFIT Faculty for Product Development**

The views expressed in this presentation are those of the author and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government.



Observations

- **Air Force platforms stay around for a long time**
 - Platforms are modified to extend life and improve capabilities
 - Systems must operate in a legacy environment while advancing capability
- **Development cycle times are increasing**
 - Non-Recurring Engineering costs rising
 - Personnel are making a career out of working on fewer systems
 - Limiting experiences
 - Decreasing intellectual capital base
- **Common capabilities across platforms—but development efforts are duplicated**
- **Integration management responsibility is contracted**
- **Quality and schedule issues are common**
- **Limited outsourcing—Off-shoring is not an option**




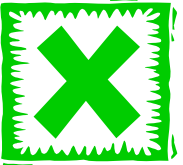







Observations...resolved

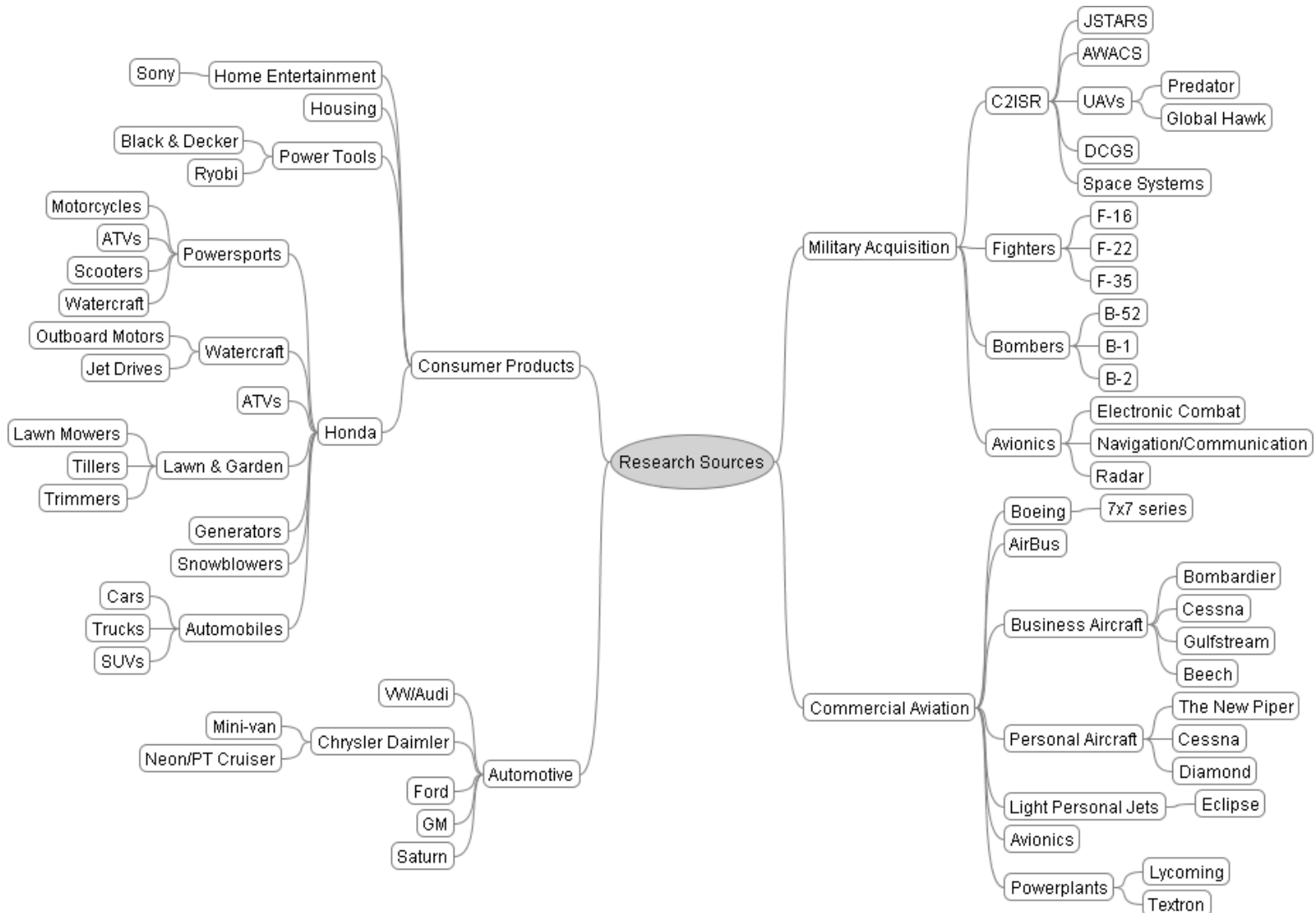
- **Improve platform management processes**
 - Use Lean Enterprise management techniques
 - Analyze existing product lines' architectures
 - Engage stakeholders to improve systems of systems requirements development processes
 - Align project management activities across programs
 - Develop management views for long-term system operations
- **Improve platform design**
 - Increase flexibility to accept future applications
 - Continue to add value through lifecycle

Example: Platform Collisions

- F-16 contracted with basket SPO to deliver self-protection capability
- Basket SPO authorized unilateral configuration change that drove modification to 3000 aircraft
- Aircraft SPO -- no recourse
- Issues
 - Project manager parochialism
 - Enterprise not realized
 - Lean principles not in play

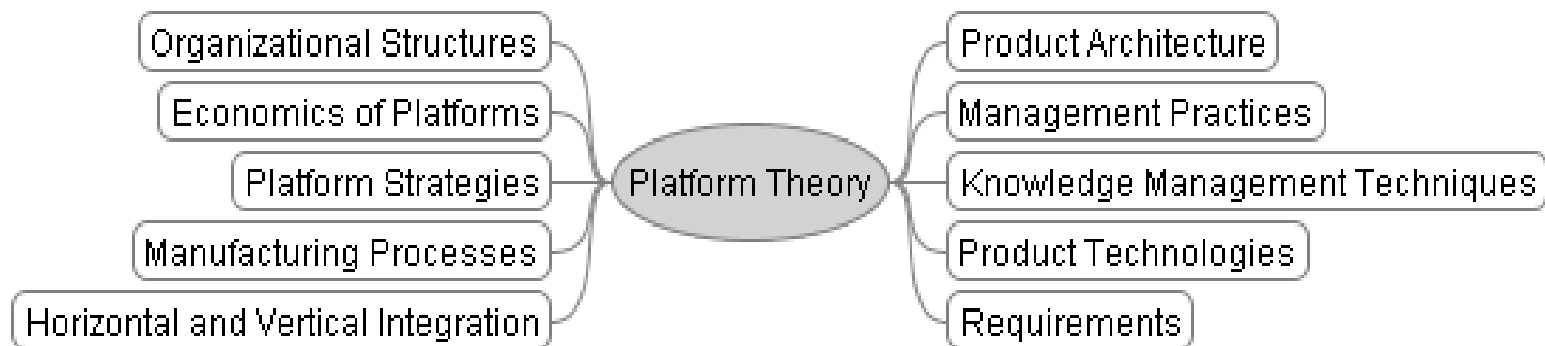
Platforms	F-16	F-15	Navy
Avionics			
Radar			
Self-protection			
Weapons			

Research Sources Platform Practitioners



Research Sources (2)

Platform Theory





Next Steps

- **Initial draft research proposal**
- **Characterize platform management practices**
 - Commercial/Industry
 - Military
- **Field research into effective platform domains**
 - Best commercial and military practices
 - Understand platforms of acknowledged lean enterprises
- **Determine best product development practices of enterprises**
- **Provide recommendations to improve USAF-enterprise product development efforts**



Contact Information



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