

NORTHROP GRUMMAN

DEFINING THE FUTURE

Integration of Risk Management and Earned Value Management

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Agenda

- **Problem Statement/Background**
- **Integration Throughout the Program Life Cycle**
- **Northrop Grumman Implementation Approach**
- **Integration Enablers**
- **Conclusions**

Problem Statement

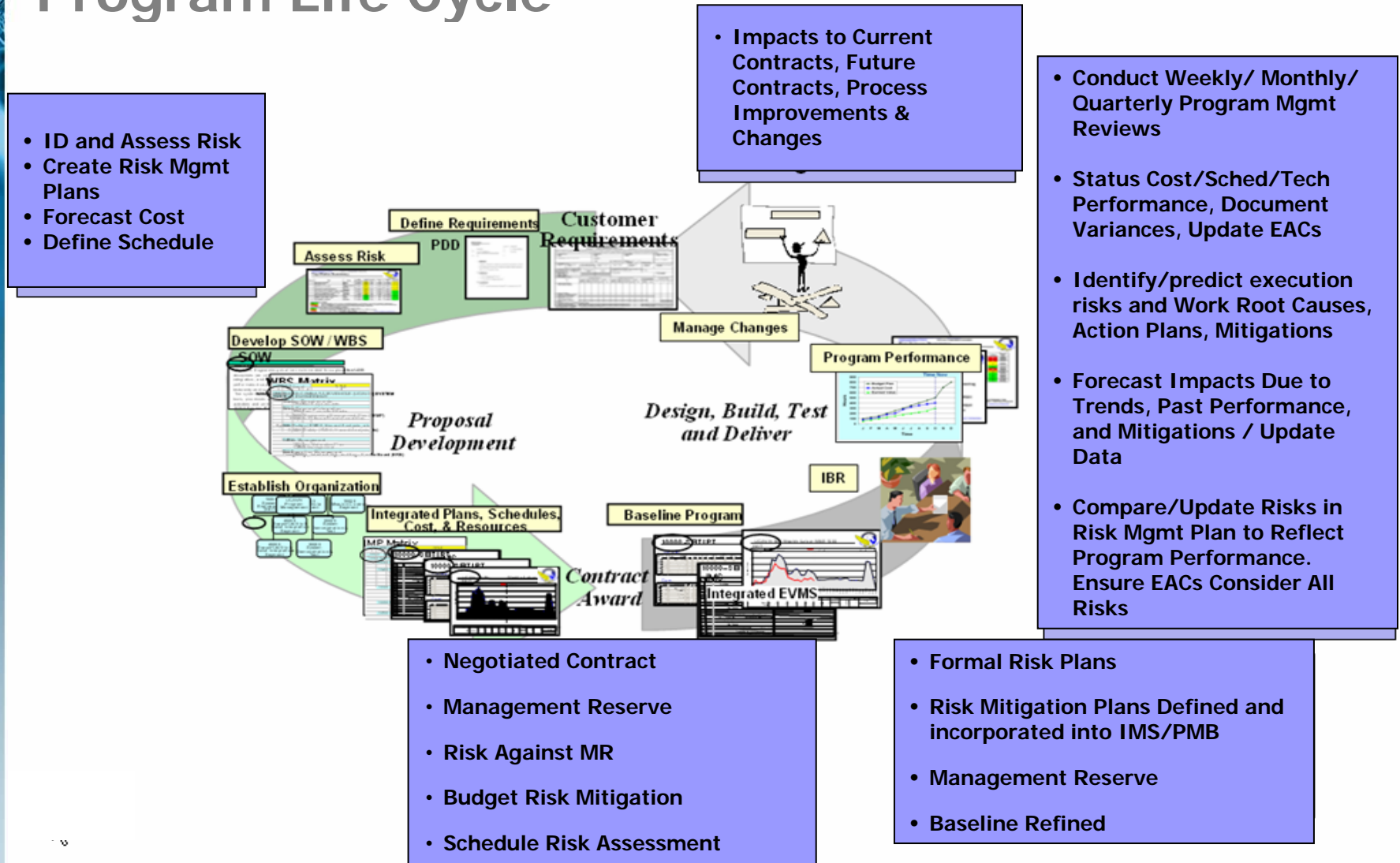
- **Risk Management and EVM are not consistently integrated**
 - At Northrop Grumman, some company elements are better integrated than others
- **This lack of integration can impact the quality of:**
 - Program schedules
 - Performance measurement baselines
 - EAC's

Background

- **In March 2005 Northrop Grumman kicked off an initiative to improve Risk Management / EVM integration**
- **A company-wide cross sector team was established**
 - Included both EVM and Risk Management representation
- **During the remainder of 2005 and first quarter of 2006 the team accomplished the following:**
 - Inventoried the current state across the company
 - Identified best practices
 - Developed a concept level integration approach
- **Challenge for 2006 and 2007**
 - Implement the concepts developed by the team

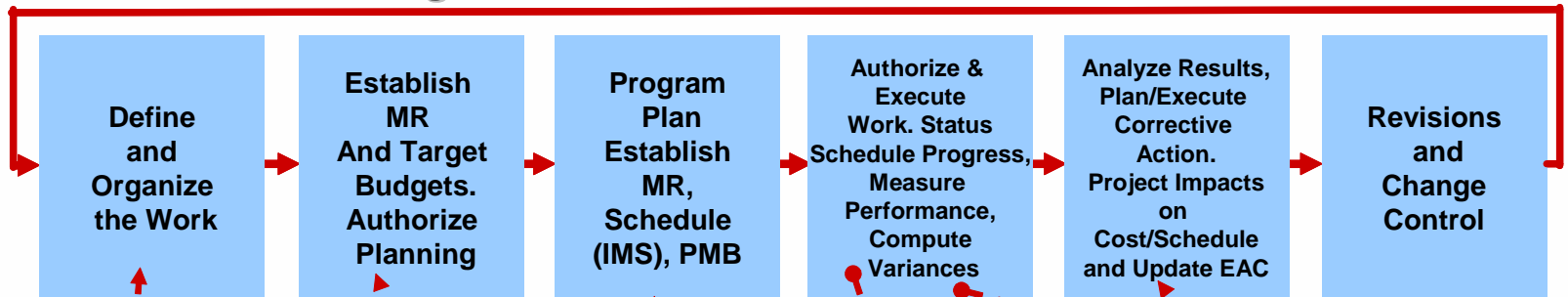
Integration of Risk Management RM and EVM

Integration Should Occur Throughout the Program Life Cycle

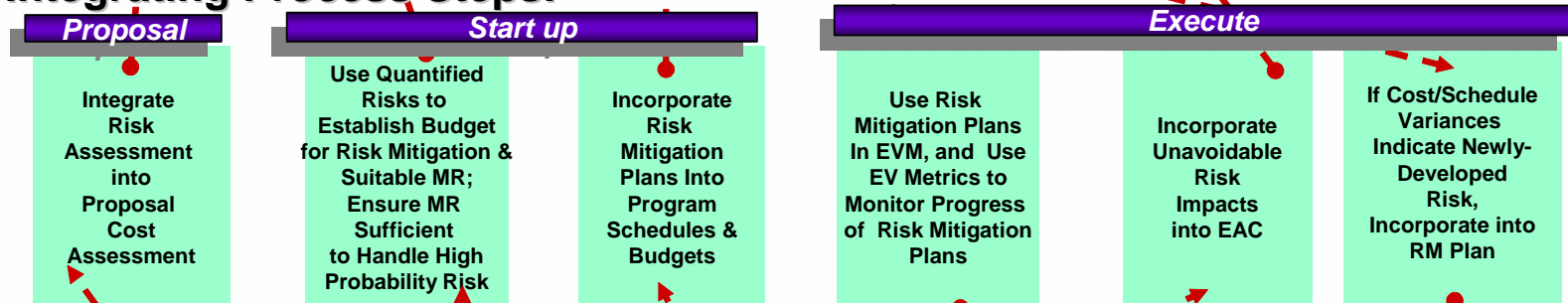


EVM and Risk Management Integration

Earned Value Management:



Integrating Process Steps:



Risk Management:



Implementation Approach

- **Established a follow-on team made up of Risk Management and EVM experts**
- **Developed a project plan**
- **Established sub teams to work, in parallel, various aspects of the plan**
- **Holding regular sub team lead meetings to ensure coordination of sub team activities and discuss issues and overlaps**
- **Holding periodic full team meetings to report progress**

Sub-Team Charters

- **Policy:**
 - Develop Corporate level policy/procedure to provide top-level integration guidance
- **Process**
 - Define a combined Risk/EVM process over a program life cycle
- **Best Practices/Tools**
 - Identify EVM and Risk tools across the company
 - Identify tool integration points
 - Create tool integration matrix

Sub-Team Charters (continued)

- **Metrics**
 - Identify metrics to measure effectiveness of the integration
- **Training & Communication**
 - Develop communication plan and material
 - Develop training material (including exercises / case studies)

Communication and Training

- **Communication**

- Critical to success of initiative
- Top level plan complete
- Sector level plans in process

- **Training**

- Developing training modules for specific audiences at sector level:
 - Awareness level training to flow down integration concepts/requirements of new Corporate policy
 - More in depth training modules for insertion in appropriate sector courses (EVM, Risk Management, Program Management, etc.)

Integration Enablers

- **Assignment of process integration responsibility to the Program Manager**
- **Elimination of process silos – RM and EVM results reviewed jointly at program reviews**
- **Process maturity/subject matter expertise**
 - Well defined process for identification/assessment and quantification of risk to feed into EVM
 - Well defined process for identification/analysis of variances to feed back to RM
 - Well defined process interfaces
- **Culture that encourages/rewards risk and variance identification/analysis, as well as disclosure of opportunities**
- **Management commitment to process integration expressed in corporate policy, procedures, and training**

Integration Enablers (continued)

- **Web Based Tools to Provide Program Visibility**
 - Integrated Program Management databases
- **Program Reviews (Weekly/Monthly)**
 - Entire management team discusses and analyzes program performance, including EV metrics, risks, and their interrelationships
 - Typical Representation
 - Program Manager
 - Functional Organizations/IPTs
 - Contracts
 - Business/Finance/EVM Community
 - Risk Management
- **Cross referencing of Risk Management and EVM procedures at all levels**

Visibility to Risk Management and EVM

HVMS Site - Summary

NORTHROP GRUMMAN

Health Visibility Management System

User Guide

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Save as Default View

	Executability	Customer Satisfaction	Cost	Schedule	Quality	TPMs	Risk	Issues	AOP	Other
Edit Metric Details										
View Metric Details										
Email Content Providers										
View Time History										
View SubMetrics										
Programs		Y↓ 2/28/05	G↓ 4/4/05	G↔ 4/4/05	G↑ 3/24/05	G↔ 2/28/05	G↔ 2/28/05	Y↑ 2/28/05	Y↓ 3/15/05	
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Plan Forward

- **Publish Procedure at Corporate level**
 - ✓ Draft Complete
- **Sectors incorporate concepts in sector policies and procedures**
 - Approach was to build a framework in which the integration is defined, but flexible enough to allow individual Sectors and Programs to tailor implementation
- **Incorporate concepts in Corporate Risk Management Handbook**
- **Complete definition of metrics to be tracked**
- **Update Training**
- **Measure integrated process effectiveness going forward and improve where necessary**

Conclusions

- **A great deal of momentum from across the company to optimize the integration of Risk Management and Earned Value Management**
 - Corporate EVM Council
 - Risk Management Community of Practice
 - Corporate Program Management Council
 - Corporate and Sector CFO's
- **Individual programs will benefit from this increased integration.**