

Managing Information System Risk at U.S. Pacific Command

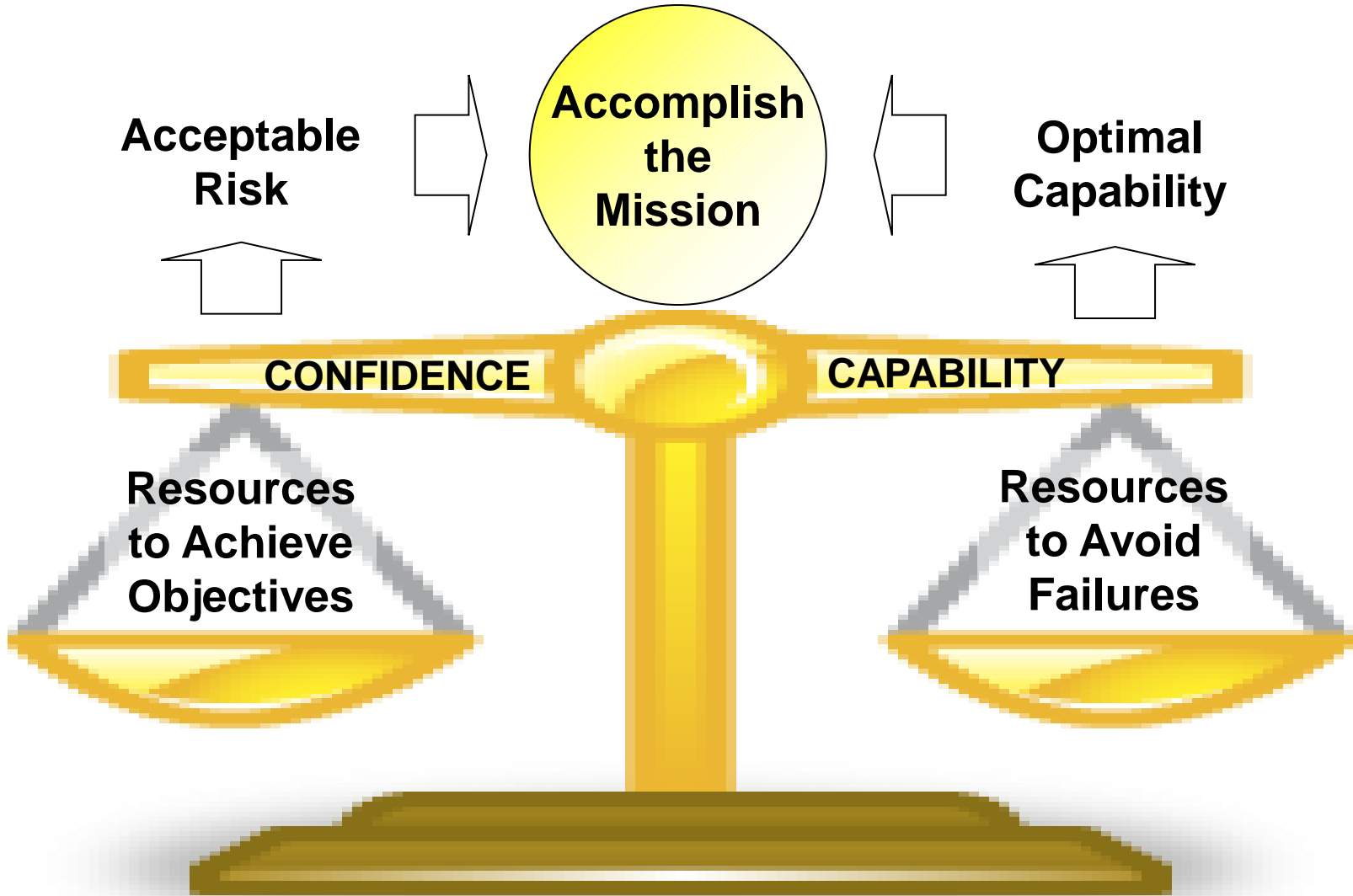


**Randy Cieslak
U.S. Pacific Command
Chief Information Officer
11 December 2009**

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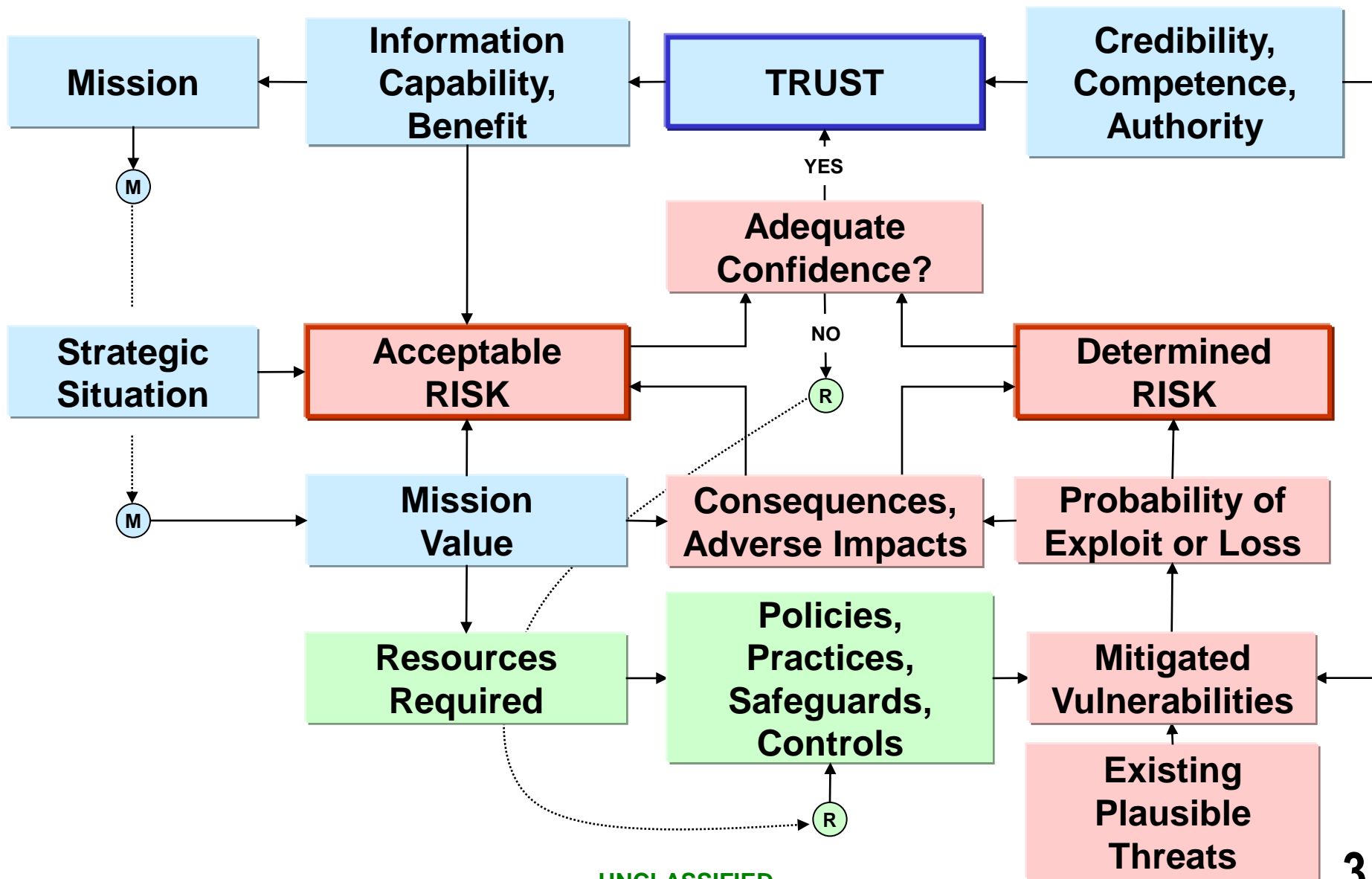


Risk is One Component of the Mission Assurance Process



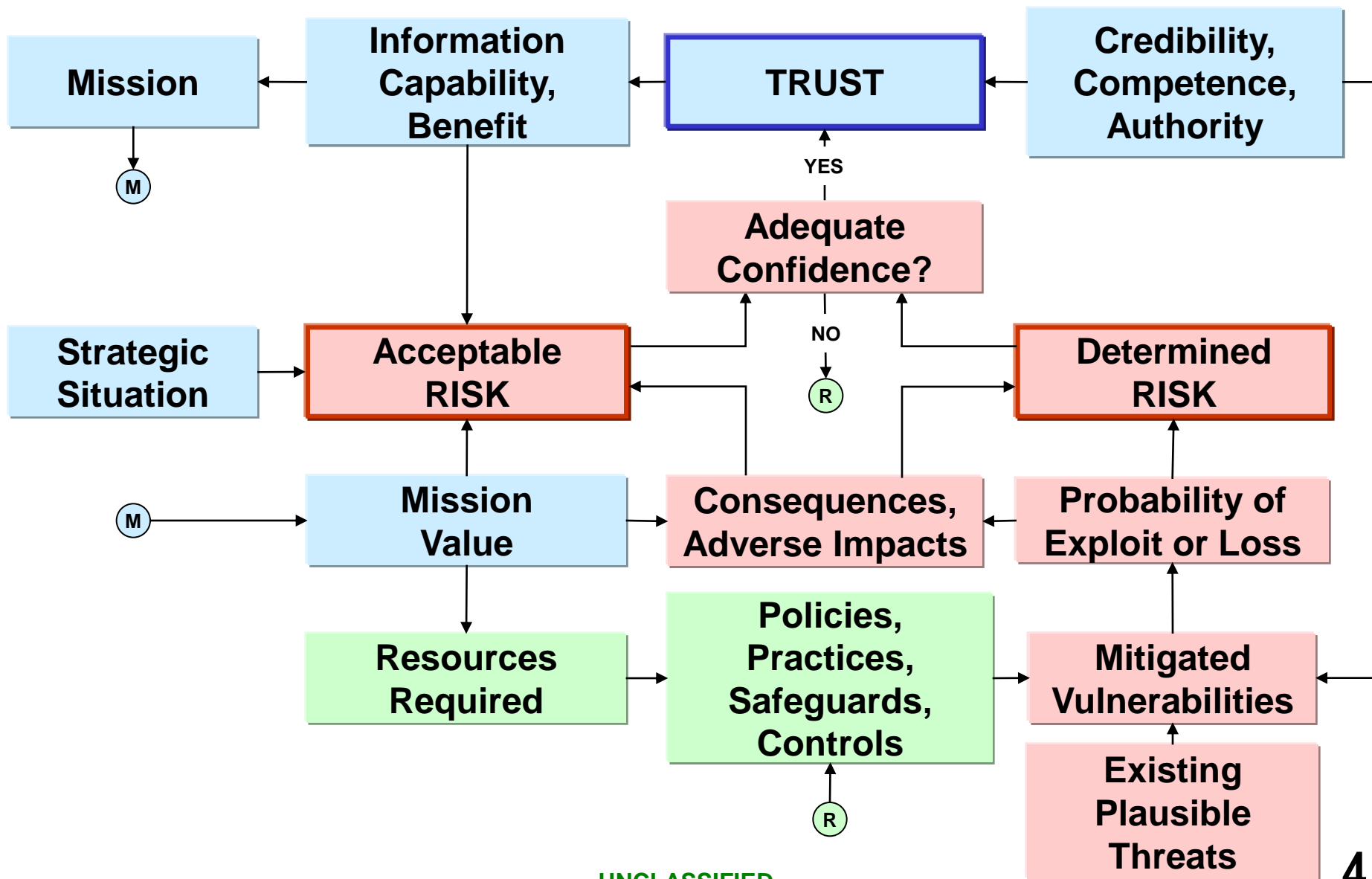


Modeling Information Capability for Mission Assurance





Modeling Information Capability for Mission Assurance





Threat - Vulnerability – Exploitation Matrix

Threat – Exploitation Matrix

		Vulnerability Vector		
Exploit Type	Human / User	Technical / System	Environmental	
Exposure	OPSEC Violations Weak Disclosure Policy Weak Classification Guidance Negligence Lack of Training	Poor Design Design Flaws Poor Quality System Faults	Natural Calamities, Facility Faults	
Intrusion	Social Engineering, Manipulation Lack of Training, Drills	Malicious Software (Malware) Mis-Configurations	NA	



Mission Impact Severity Multiplier

Mission Impact Severity Multiplier

By increasing severity:

Exploit	Relative Severity	Multiplier
Discovery	Bad	x -1
Denial	Worse	x -2
Exposure	Even Worse	x -3
Exfiltration	Worse Still	x -4
Deception	Worst	x -5



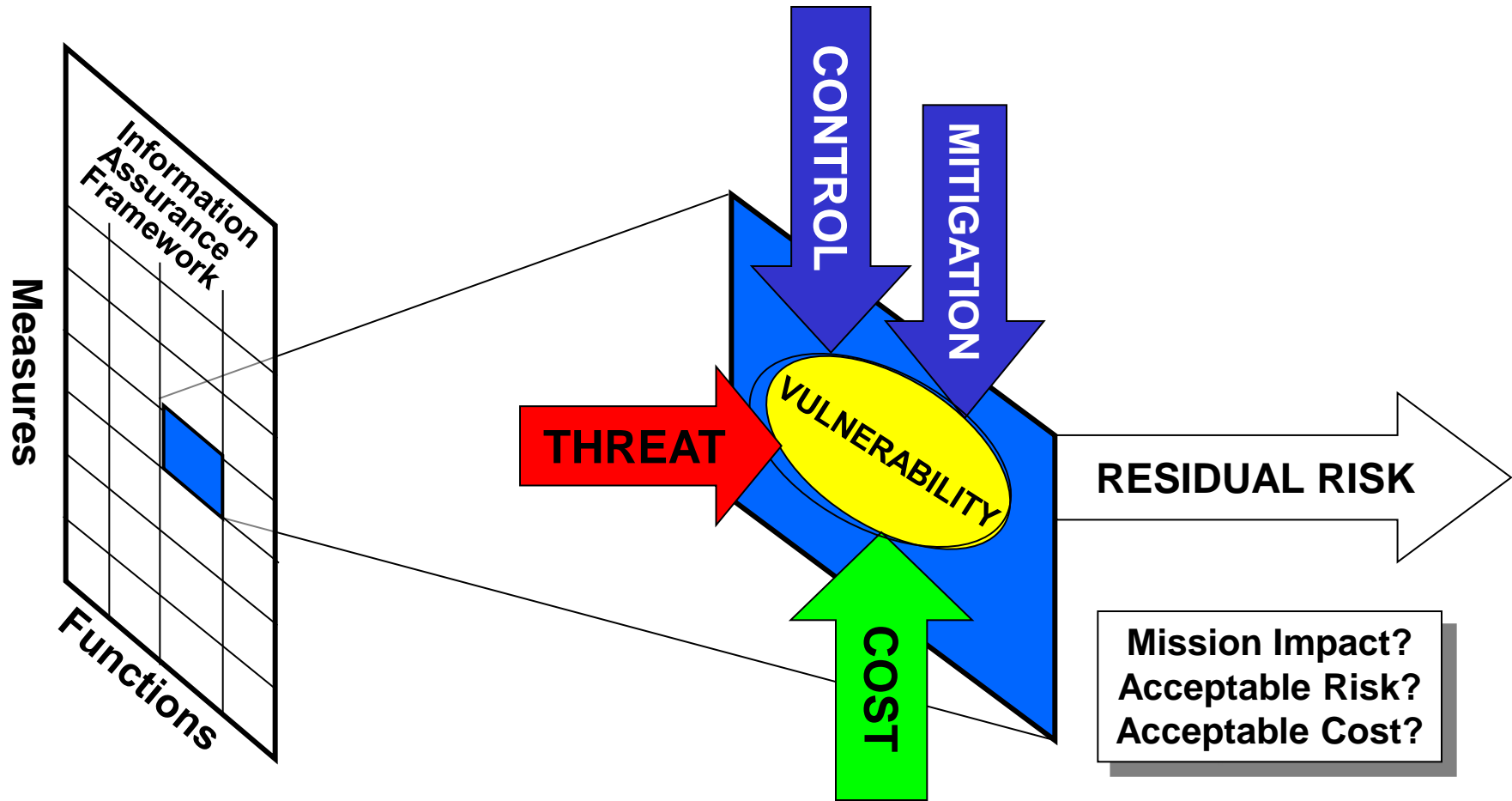
Information Assurance Framework

Information Assurance Framework

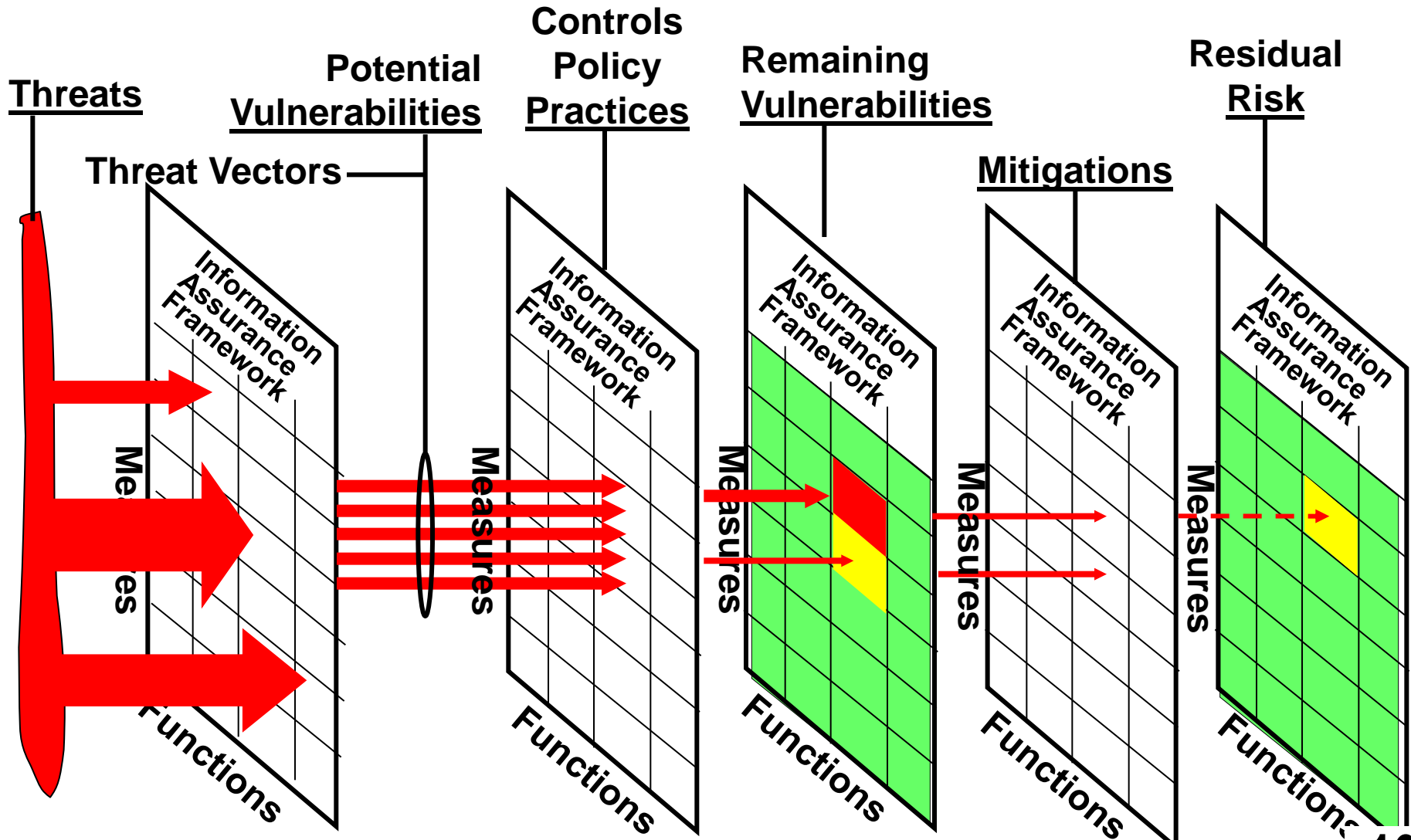
Achieving IA functions through IA control measures

		SUSTAIN	DEFEND	RESPOND			
		a. Maintain Integrity	b. Manage Trust	c. Detect Risks	e. React to Intrusions	f. Restore Operations	CONTROL MEASURES ASSESSMENT
		FUNCTIONS					
CONTROL MEASURES	7. Information Content Conditioning & Control	✓	✓	✓	✓	✓	↑
	6. Identity Authentication & Authorization	✓	✓	✓	✓	✓	↑
	5. Education Training & Awareness	✓	✓	✓	✓	✓	↑
	4. Design, Configuration, Operations & Administration	✓	✓	✓	✓	✓	↑
	3. Continuity of Operations	✓	✓	✓	✓	✓	↑
	2. Cyber Security Services	✓	✓	✓	✓	✓	↑
	1. Physical Security Services	✓	✓	✓	✓	✓	↑
	FUNCTIONAL ASSESSMENT		↑	↑	↑	↑	↑

Framework cells enable higher fidelity in cost-risk-benefit decisions



IAF enables alignment to more accurately target measures and determine residual risk





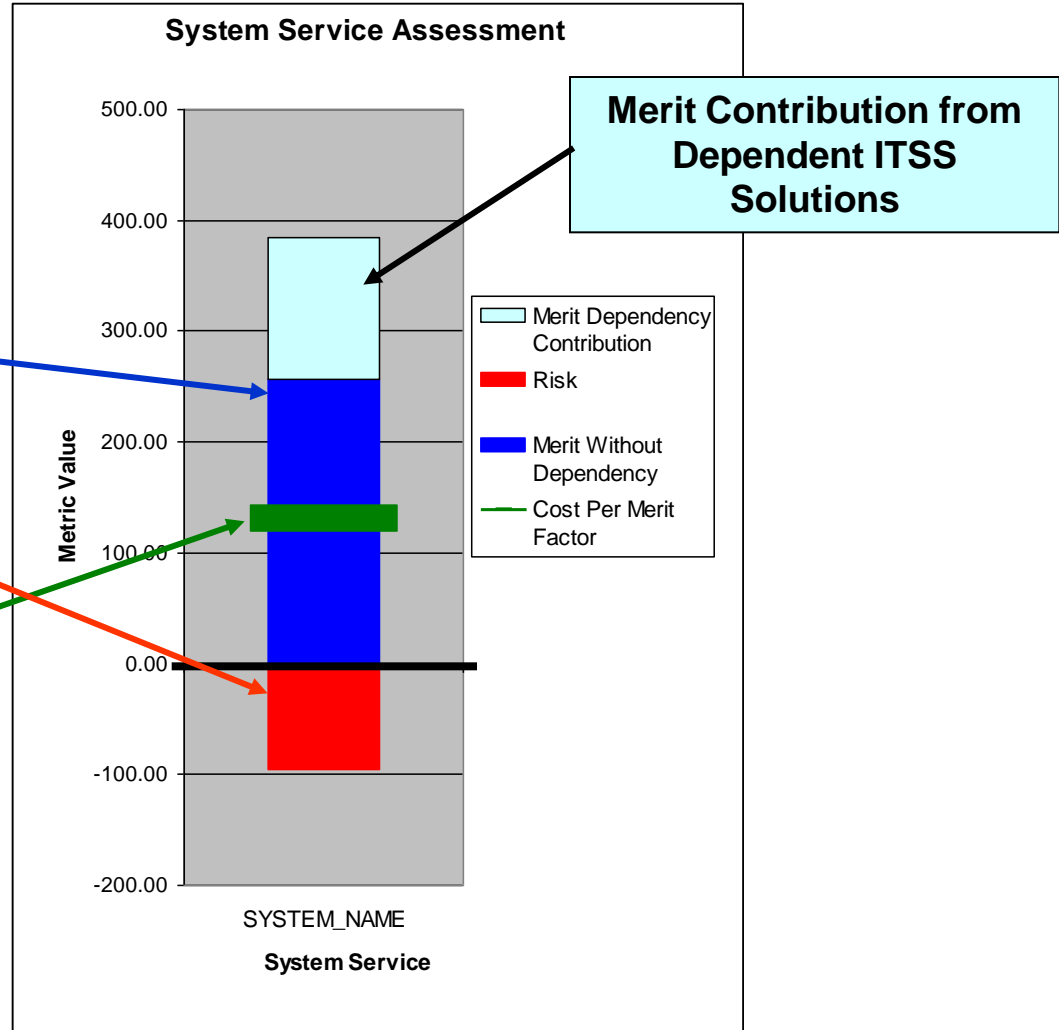
Valuating IT System Services

Tier 1 Executive Level Information IT System Service Valuation Metrics

ITSS Merit

ITSS Risk

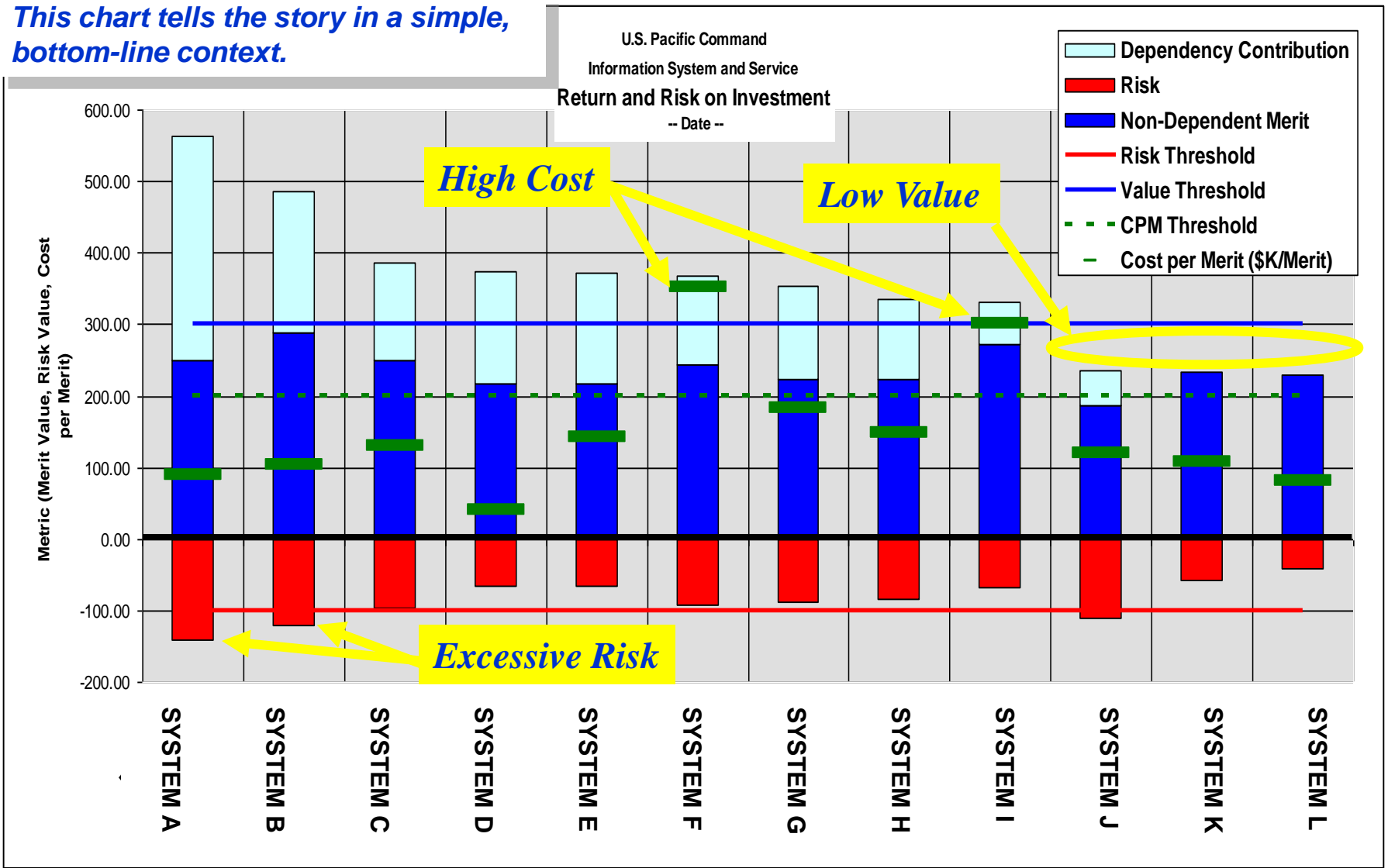
ITSS Cost per Merit (CPM)





Assessing the System Portfolio

This chart tells the story in a simple, bottom-line context.





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Questions & Discussion

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