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SECURE DEVELOPMENT IN THE SUPPLY CHAIN ERA

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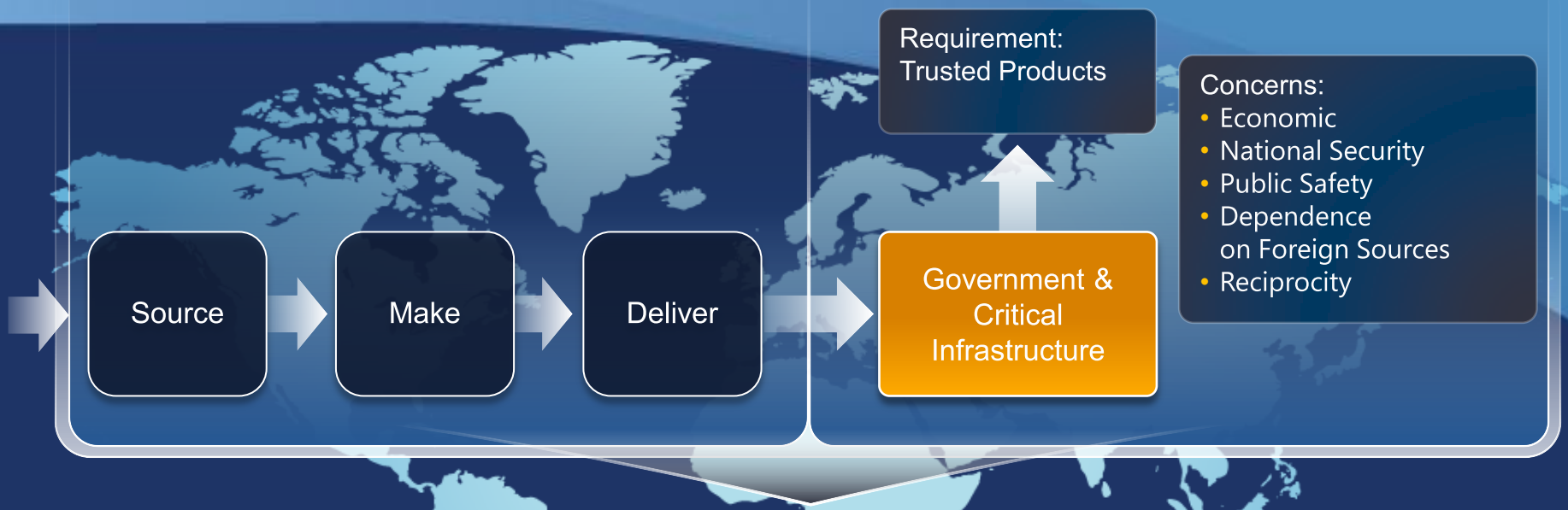
Cyber Threat Evolution

1986–1995	1995–2003	2004-2006	2006+
Characteristics			
• LANs • First PC virus	• Internet Era • "Big Worms"	• OS, DB attacks • Spyware, Spam	• Targeted attacks • Social engineering
Motivations			
Reputation, Damage…			
	Cybercrime		
		Economic/ Military Espionage	
			Cyber Warfare

Growing Government concern around supply chains delivering technology for national infrastructure

Supply Chain Complexity



Government Response

- United States → Defense Procurement Regulations; Draft Legislation
- Russia → Non-disclosed Functionality Policy; National Software Platform
- India → Indigenous Telecom Innovation Proposals
- China → 11th Five-Year Plan; Multi-level Protection Scheme (MLPS)

Industry Response

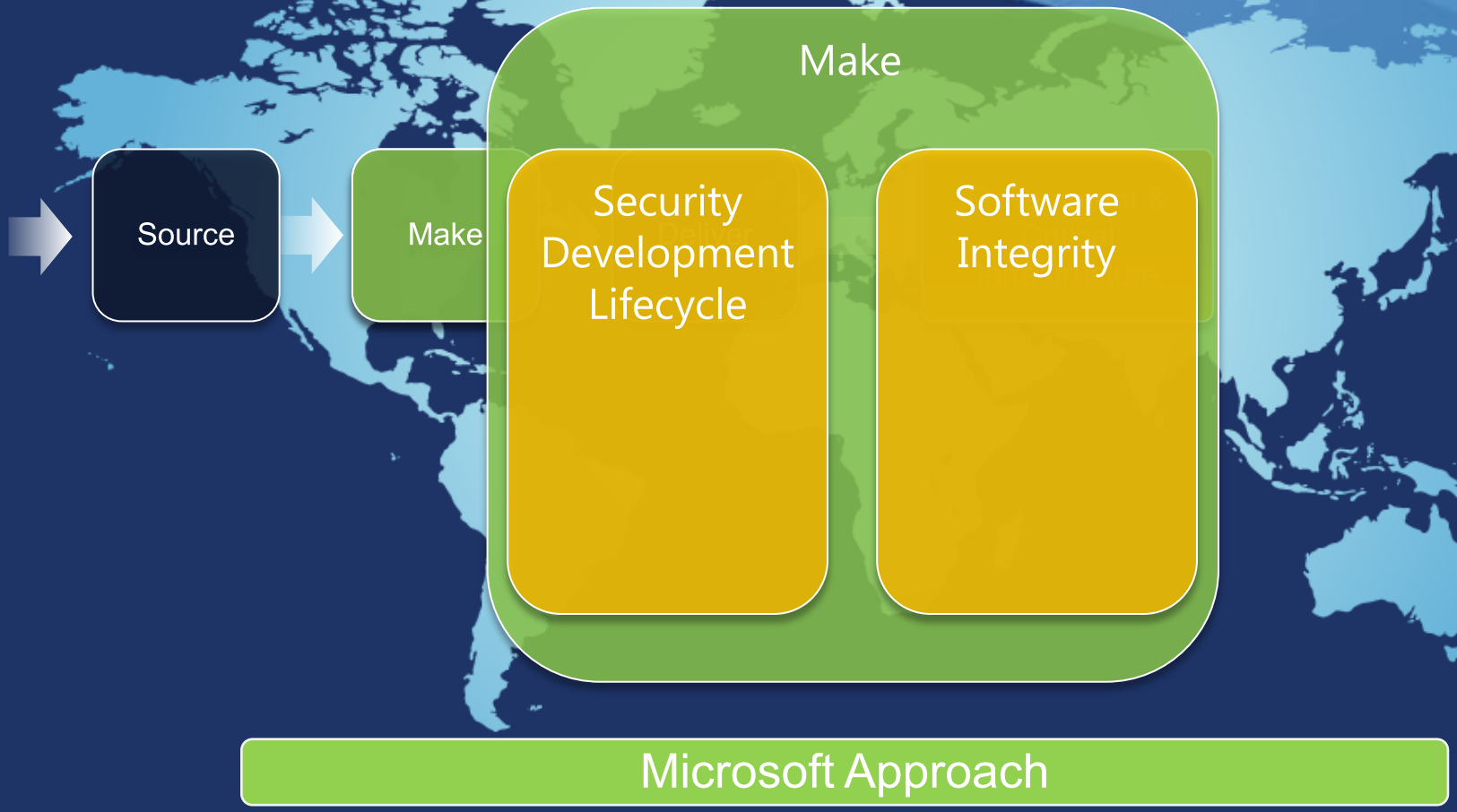
SAFECode — Software Assurance Forum for Excellence in Code — Driving Security and Integrity

THE Open GROUP — Making standards work®

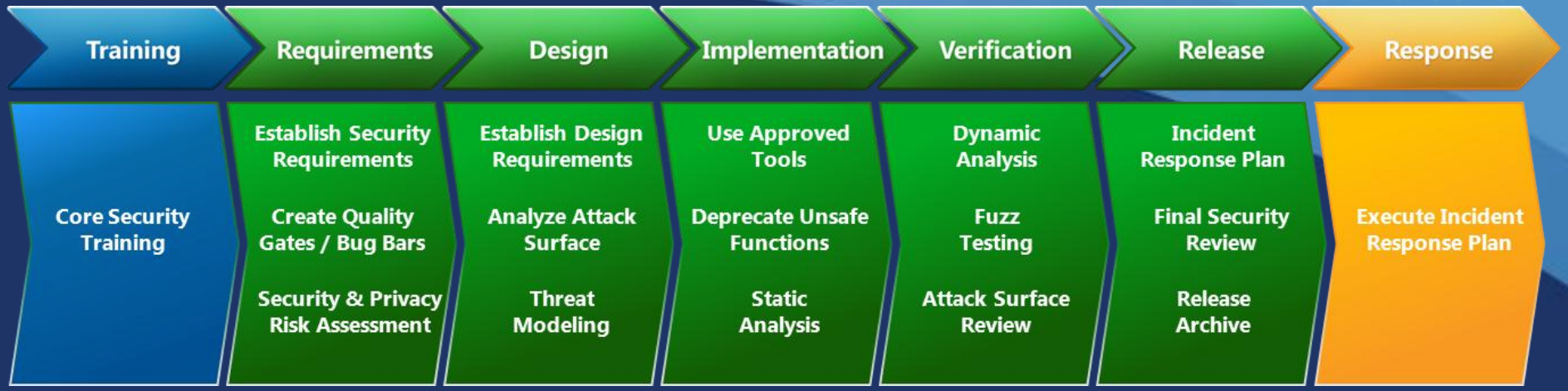
Open Group Trusted Technology Forum

TechAmerica — WHERE THE FUTURE BEGINS

Supply Chain Complexity

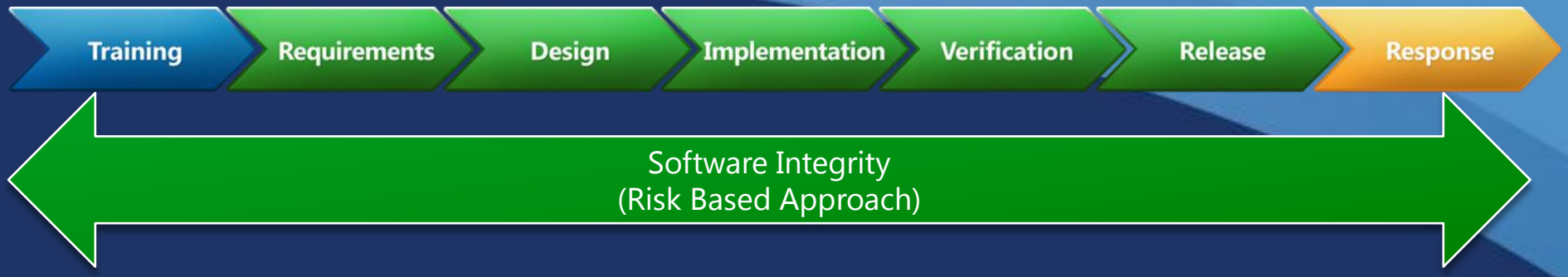


Security Development Lifecycle (SDL)



- Sixteen core processes from Training through Release
  - Integrates well with the existing Software Development Life Cycle (SDLC)
  - Strong reliance on automation
  - Includes activities for Architects, Program/Project Managers, Developers and QA/Testers
  - Note: Response not generally considered part of the SDL – but feeds into SDL
- Other non-development, post-release process requirements
  - Root cause analysis of found vulnerabilities; **failure of human, process, or automation**
  - Vulnerability analysis of similar applications
  - Penetration Testing as appropriate

Software Integrity



- We evaluate threats within software development model and focus on areas of significant risk (e.g., people, process, technology)
- Resulting Control Categories
  - Proof of Identity
  - Access Management
  - Development Process Controls
  - Build Process Controls
  - Malware Scanning
  - Code Signing

Guiding Principles

Establish multilateral models to address risks associated with unknown processes & safeguards

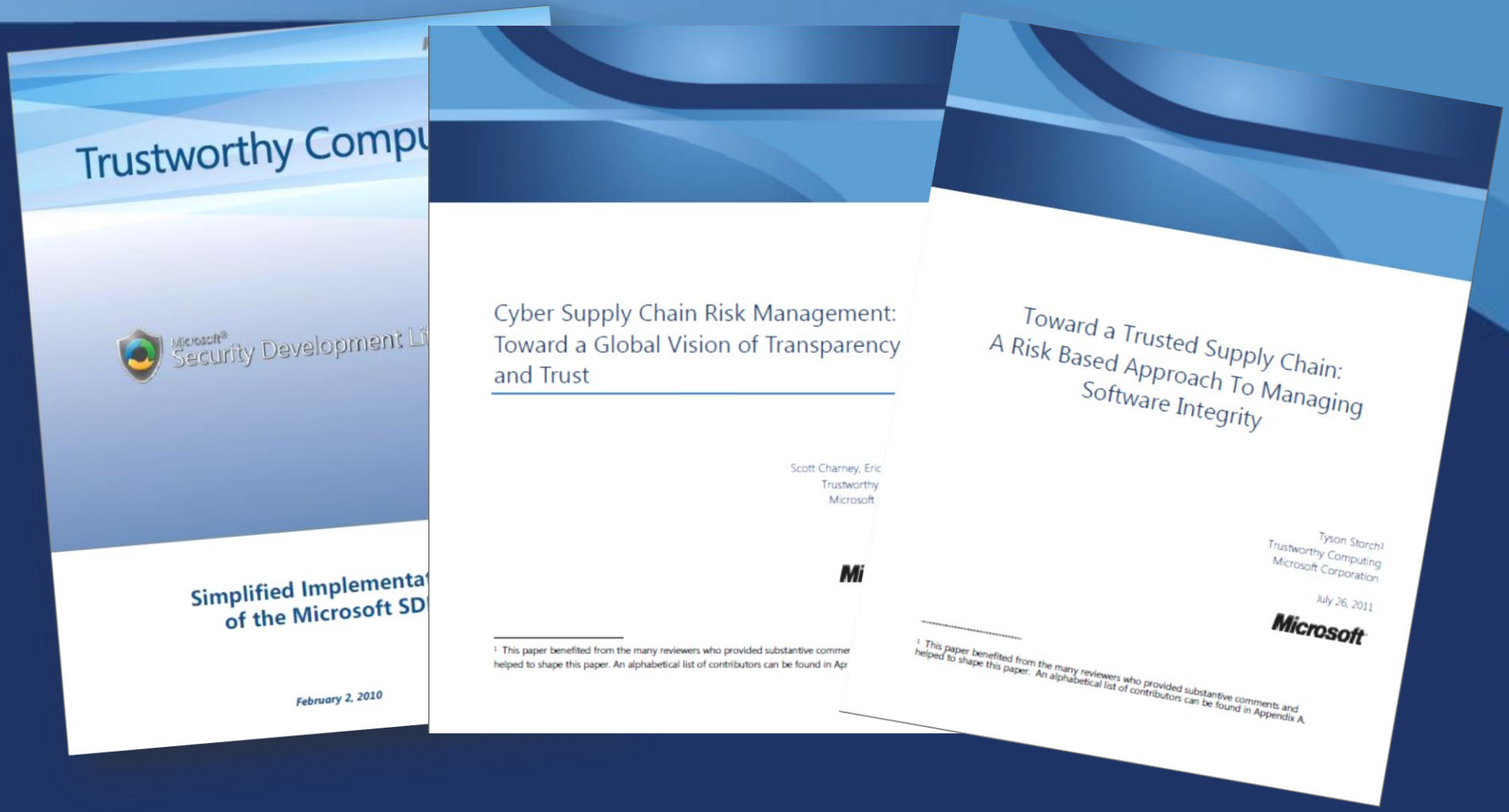
- Governments Develop a Risk Based Approach
- Private/Public Partnership Create Global Standards

Embrace Risk Based Approach

Ensure Transparency

Provide Flexibility

Recent Publications



More Information

- SDL Landing Page
  - http://www.microsoft.com/sdl
- SDL Simplified Whitepaper
  - http://www.microsoft.com/download/en/details.aspx?id=12379
- Supply Chain Whitepaper - Toward a Global Vision of Transparency and Trust
  - http://www.microsoft.com/download/en/details.aspx?id=26826
- Software Integrity Whitepaper - A Risk-Based Approach to Managing Software Integrity
  - http://www.microsoft.com/download/en/details.aspx?id=26828
- SAFECode
  - http://www.safecode.org/publications/SAFECode_Supply_Chain0709.pdf
- Open Group OTTF
  - http://www.opengroup.org/ottf

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