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CForum: **A Community Driven Solution to Cybersecurity Challenges**

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CHANGE

Challenge today's security thinking



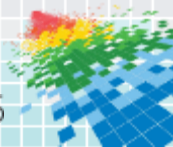
Organizations continued to battle challenges to achieving cybersecurity risk management



U.S. Executive Order (EO) 13636 initiated a dialogue to identify challenges and determine effective responses. Industry responded to a NIST RFI:

- ◆ Trying to prioritize security activities without context seems like “Whack-a-Mole”
- ◆ IT Security budget is a zero-sum game; every dollar spent on compliance is a dollar not spent on risk-management
- ◆ Application of security controls needs to be scalable
- ◆ Challenge balancing performance and conformance
- ◆ Need for better risk dialogue with executive management

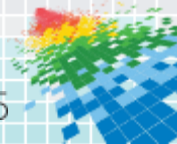
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What is CForum?

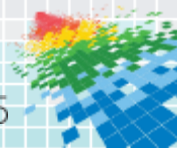
- ◆ In the next few slides, we'll provide some details about CForum
- ◆ CForum continues the conversation started during the Cybersecurity Framework workshops as:
 - ◆ a place to collaborate about measuring and improving cybersecurity
 - ◆ an environment for discussing emerging threats to cybersecurity information and operation technology
 - ◆ a forum for thought leaders to share information

Cyber.SecurityFramework.org



Community response and dialogue helped refine the challenges and solutions

Framework Principles	Common Points	Initial Gaps
<ul style="list-style-type: none">• Flexibility• Global Impact• Risk Mgmt Approaches• Leverage Existing Approaches, Standards, and Best Practices	<ul style="list-style-type: none">• Senior Mgmt Engagement• Understanding Threat Environment• Business Risk Assessment• Separation of Business & Operational Systems• Models / Levels of Maturity• Incident Response• Cybersecurity Workforce	<ul style="list-style-type: none">• Metrics• Privacy / Civil Liberties• Tools• Dependencies• Industry Best Practices• Resiliency• Critical Infrastructure Cybersecurity Nomenclature

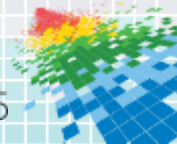


We also need a common language to help normalize and optimize activities

- ◆ Goal: Comply once – use many
- ◆ NIST identified >450 commonly used standards & practices
- ◆ Many of these share categories and families of controls in common
- ◆ Keeping up with multiple compliance frameworks is resource intensive and costly
- ◆ Need to express requirements and status to supply chain partners



For example:
NIST SP 800-53 Control **AC-3**,
ISO 27002:2013 **A.9.4.1**, and
IEC 15408 **FDP_ACC.2** all point
to “**access control**” processes

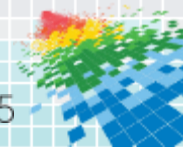
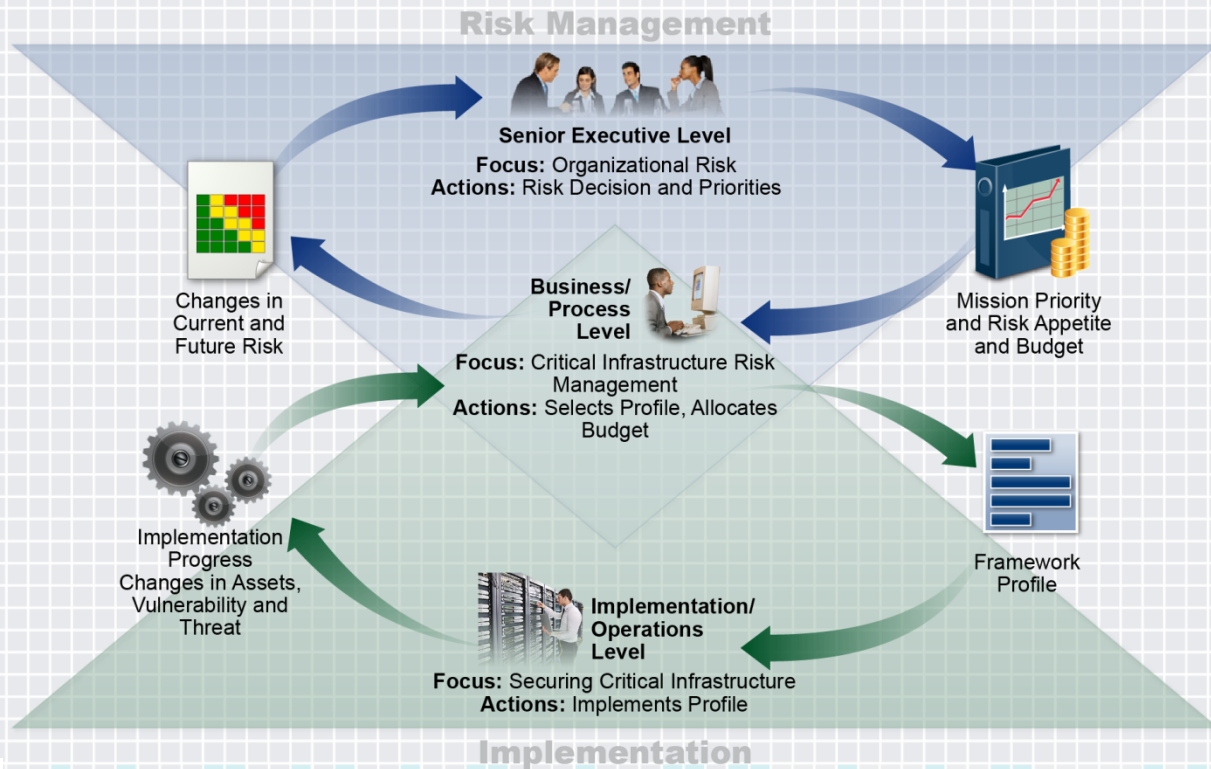


The Cybersecurity Framework is comprised of three primary components #RSAC

Framework Core

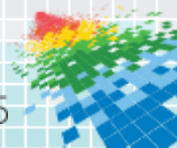
Function	Category	Subcategory	Informative References
IDENTIFY (ID)	Governance (GOV): The policies, procedures, and processes to manage and monitor the organization's agency, legal, risk, environmental, and operational requirements are understood and address the management of cybersecurity risk.	ID.GOV-1: Organizational information security policy is established	CORR 7 APOI.01, ERM.01.01, ERM.01.02 ISA 6348-2-2:2008 A.2.2.4 ISO IEC 17003:2013 A.2.1.3 NIST SP 800-30 Rev. 4-1 controls from 401/402/403
		ID.GOV-2: Information security roles, responsibilities are understood and aligned with internal roles and external partners	CORR 7 APOI.02 ISA 6348-2-2:2008 A.2.2.3 ISO IEC 17003:2013 A.2.1.3 A.7.2.1 NIST SP 800-30 Rev. 4 390.4, 390.5
		ID.GOV-3: Legal and regulatory requirements affecting cybersecurity including government and industry rules, policies, and standards are understood and managed	CORR 7 ERM.01.01, ERM.01.04 ISA 6348-2-2:2008 A.2.1 ISO IEC 17003:2013 A.2.1 NIST SP 800-30 Rev. 4-1 controls from 401/402/403 (except 390.1)
PROTECT (PR)	Access Control (PR.AC): Access to assets and associated facilities is limited to authorized users, processes, or devices, and to authorized activities and transactions.	PR.AC-1: Identification and credentials are managed for authorized devices and users	CC CAC.16 CORR 7 CRO.01.01, CRO.01.03 ISA 6348-2-2:2008 A.2.2.2.1 ISA 6348-2-2:2008 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.1.5, 10.1.6, 10.1.7, 10.1.8, 10.1.9 ISO IEC 17003:2013 A.2.1.3 A.2.2.4, A.2.2.5, A.2.2.6, A.2.2.7, A.2.2.8 NIST SP 800-30 Rev. 4 AOC-1, 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J, 1K, 1L, 1M, 1N, 1O, 1P, 1Q, 1R, 1S, 1T, 1U, 1V, 1W, 1X, 1Y, 1Z, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 2I, 2J, 2K, 2L, 2M, 2N, 2O, 2P, 2Q, 2R, 2S, 2T, 2U, 2V, 2W, 2X, 2Y, 2Z, 3A, 3B, 3C, 3D, 3E, 3F, 3G, 3H, 3I, 3J, 3K, 3L, 3M, 3N, 3O, 3P, 3Q, 3R, 3S, 3T, 3U, 3V, 3W, 3X, 3Y, 3Z, 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4I, 4J, 4K, 4L, 4M, 4N, 4O, 4P, 4Q, 4R, 4S, 4T, 4U, 4V, 4W, 4X, 4Y, 4Z, 5A, 5B, 5C, 5D, 5E, 5F, 5G, 5H, 5I, 5J, 5K, 5L, 5M, 5N, 5O, 5P, 5Q, 5R, 5S, 5T, 5U, 5V, 5W, 5X, 5Y, 5Z, 6A, 6B, 6C, 6D, 6E, 6F, 6G, 6H, 6I, 6J, 6K, 6L, 6M, 6N, 6O, 6P, 6Q, 6R, 6S, 6T, 6U, 6V, 6W, 6X, 6Y, 6Z, 7A, 7B, 7C, 7D, 7E, 7F, 7G, 7H, 7I, 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CForum helps users understand how to apply the Framework for communications



CForum is an online forum for sharing lessons learned and good practices #RSAC

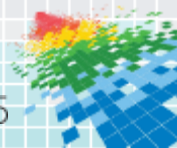
- ◆ Industry leaders such as Tony Sager and Mike Brown help spark security conversations
- ◆ Several hundred users help ensure a balanced approach
- ◆ Relevant topic areas include:
 - ◆ Framework specific training and discussion
 - ◆ Topics for individual critical information sectors
 - ◆ Next iteration of the Framework
 - ◆ Implementation Guidance
 - ◆ Supply Chain Risk Management



CForum can help identify others' examples of use that can save your organization time

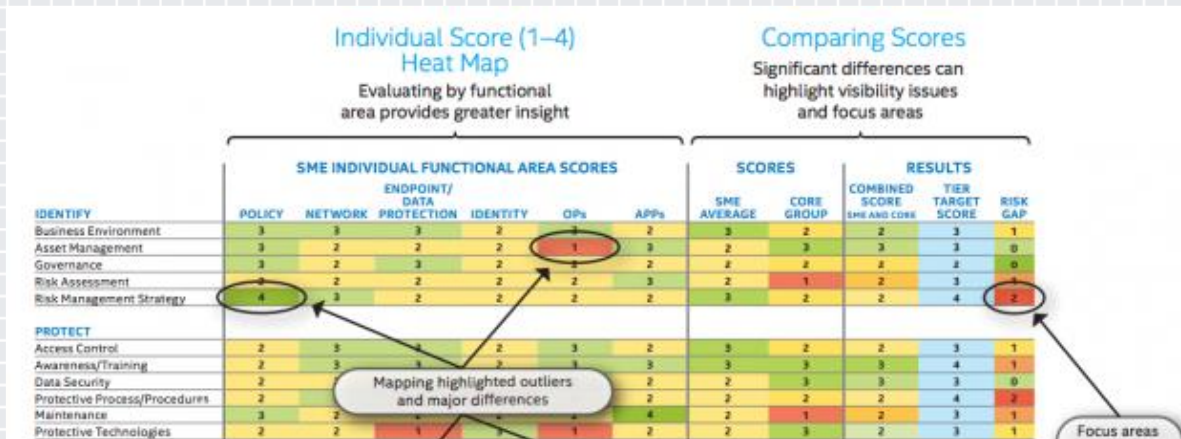


- ◆ Apply the Framework's flexibility to achieve organizational cybersecurity goals
- ◆ Learn how different organizations use it in different ways with different tools to achieve Framework outcomes

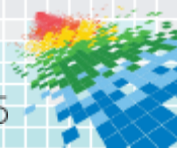


The Cybersecurity Framework in Action: An Intel Use Case

- ◆ Intel Corporation described how they used the Framework model to create a heat map for communicating and prioritizing cybersecurity activity among internal functional areas



<http://www.intel.com/content/www/us/en/government/cybersecurity-framework-in-action-use-case-brief.html>



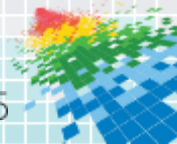
AWWA Guidance and Cybersecurity Tool



American Water Works Association has developed Process Control System Security Guidance for the Water Sector and a supporting Cybersecurity Use-Case Tool.

The AWWA's cybersecurity resources are designed to provide actionable information for utility owner/operators based on their use of process control systems.

<http://www.awwa.org/resources-tools/water-and-wastewater-utility-management/cybersecurity-guidance.aspx>



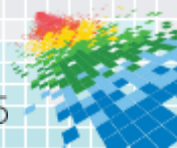
Homeland Security provides valuable resources to apply the Framework model

- ◆ DHS Industrial Control Systems Cyber Emergency Response Team (ICS-CERT) provides the Cyber Security Evaluation Tool (CSET)
- ◆ Numerous resources from the Critical Infrastructure Cyber Community (C³) Voluntary Program



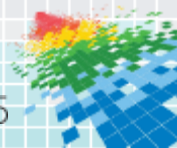
<https://ics-cert.us-cert.gov/Assessments>

<https://www.us-cert.gov/ccubedvp>



CForum provides a venue for sharing risk information with other organizations

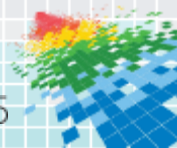
- ◆ ISACs and Sector Coordinating organizations use CForum to share information about emerging threats, and successful incident response methods
- ◆ Organizations can compare notes about how to characterize risks & threats
- ◆ Users should not share corporate or sensitive data, but general information can protect the community



Why re-invent the wheel? Leverage shared templates to accelerate improvement

Function	Category	Subcategory	Priority	Org Policy	Org Practices	Status	Comments / Evidence
IDENTIFY (ID)	Asset Management (ID-AM): The data, personnel, devices, systems, and facilities that enable the organization to achieve business purposes are identified and managed consistent with their relative importance to business objectives and the organization's risk strategy.	ID-AM-1: Physical devices and systems within the organization are inventoried	M				
		ID-AM-2: Software platforms and applications within the organization are inventoried	L				
		ID-AM-3: Organizational communication and data flows are mapped	H				
		ID-AM-4: External information systems are catalogued	M				
		ID-AM-5: Resources (e.g., hardware, devices, data, and software) are prioritized based on	M				
		ID-AM-6: Cybersecurity roles and responsibilities for the entire workforce and third-party	H				

- ◆ Take advantage of lessons learned by others
- ◆ Jump start use of cybersecurity resources by using shared templates
- ◆ Identify opportunities for consistency within and across critical infrastructure sectors



Continue the conversation!

- ◆ Federal agencies are jump starting but aren't the long-term solution - management will eventually transfer to "Industry"
- ◆ Industry needs to own and lead cybersecurity management practices
- ◆ Businesses bring real-world understanding of the challenges and solutions
- ◆ Take advantage of the examples and lessons learned
- ◆ Help provide topics that speak the language of business



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