



SOC for Cybersecurity

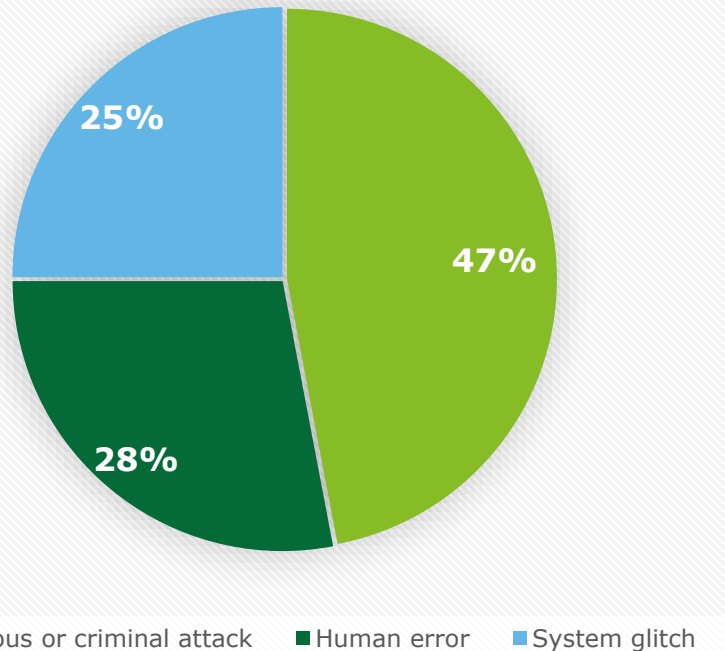
An overview of the AICPA's cybersecurity attestation reporting framework

December 2018

Data breaches are not stopping despite significant investments both globally and in the U.S.



Summary of the main root causes of data breaches on a consolidated basis (globally)



- ✓ The number of cyber-related attacks and breaches continues to grow
- ✓ The average cost of cybercrime incurred by companies across major industries continues to grow
- ✓ New and emerging risks are introduced daily
- ✓ A variety of recent legislation related to cybersecurity reporting and disclosures

Sources:

1. Gartner Press Release, Gartner Forecasts Worldwide Security Spending Will Reach \$96 Billion in 2018, Up 8 Percent from 2017, December 2017
<https://www.gartner.com/newsroom/id/3836563>

2. Ponemon Institute and IBM Security, 2017 Cost of Data Breach Study: Global Overview
<https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=SEL03130WWEN&>

Recent remarks on cybersecurity

While our digital world brings about extraordinary benefits, it also presents us with significant risks. The following are just a handful of recent sound bytes that not only reinforce this but also call attention to how this is much more than a technology concern and one that extends to the culture and core values of an organization.

*While companies and shareholders agree that **cybersecurity is one of the most prominent corporate issues** of our time, it is unclear why companies are not doing more to **implement robust cybersecurity frameworks** and to provide meaningful disclosures regarding the risks of data loss*

SEC Commissioner, Kara Stein

<https://www.sec.gov/news/speech/speech-stein-021318>

*We need to **arm corporate boards** with a mechanism to thoughtfully assess management's assertions about the **design and effectiveness of their organizations' cyber defenses**.*

Former Deputy Secretary of the US Department of Treasury, Sarah Bloom Raskin

<https://www.treasury.gov/press-center/press-releases/Pages/jl0685.aspx>

*We believe the best way for industry to **focus on the threat of cyber security** is to have a **consistent framework***

NYDFS Superintendent, Maria Vullo, at a 2017 NAIC meeting

<https://www.insurancejournal.com/news/national/2017/04/10/447358.htm>

*We encourage companies to adopt **comprehensive policies and procedures** related to cybersecurity and to **assess their compliance** regularly, including the sufficiency of their **disclosure controls and procedures** as they relate to cybersecurity disclosure.*

SEC's Statement and Guidance on Public Company Cybersecurity Disclosures (17 CFR Parts 229 and 249)

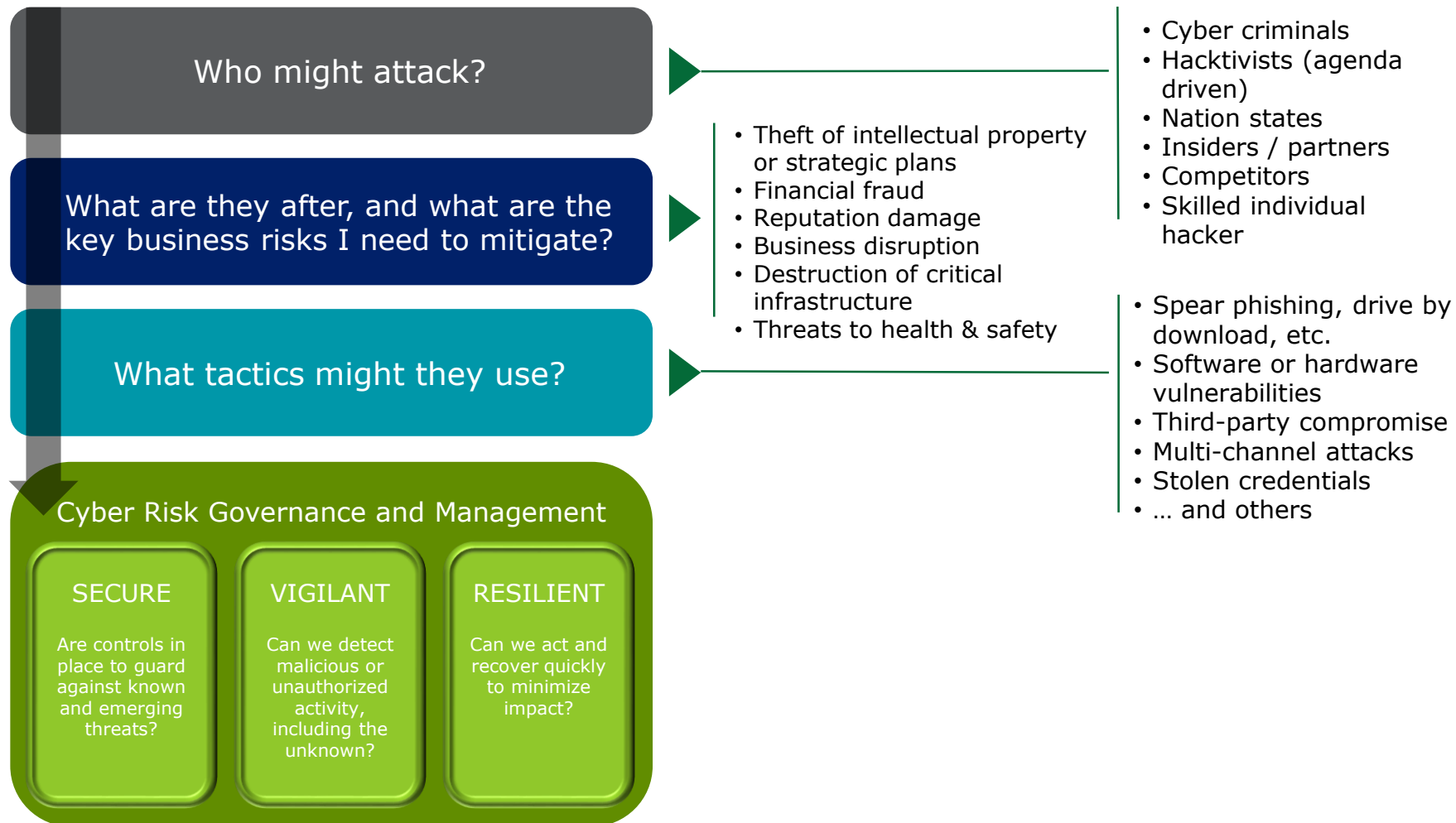
<https://www.sec.gov/rules/interp/2018/33-10459.pdf>

Cybercrime is an enterprise-level risk that will require an interdisciplinary approach, significant investments of time and talent by senior leadership and board-level attention

SEC Commissioner Robert Jackson

<https://www.sec.gov/news/speech/speech-jackson-cybersecurity-2018-03-15>

Cyber threat landscape, vectors, and approaches

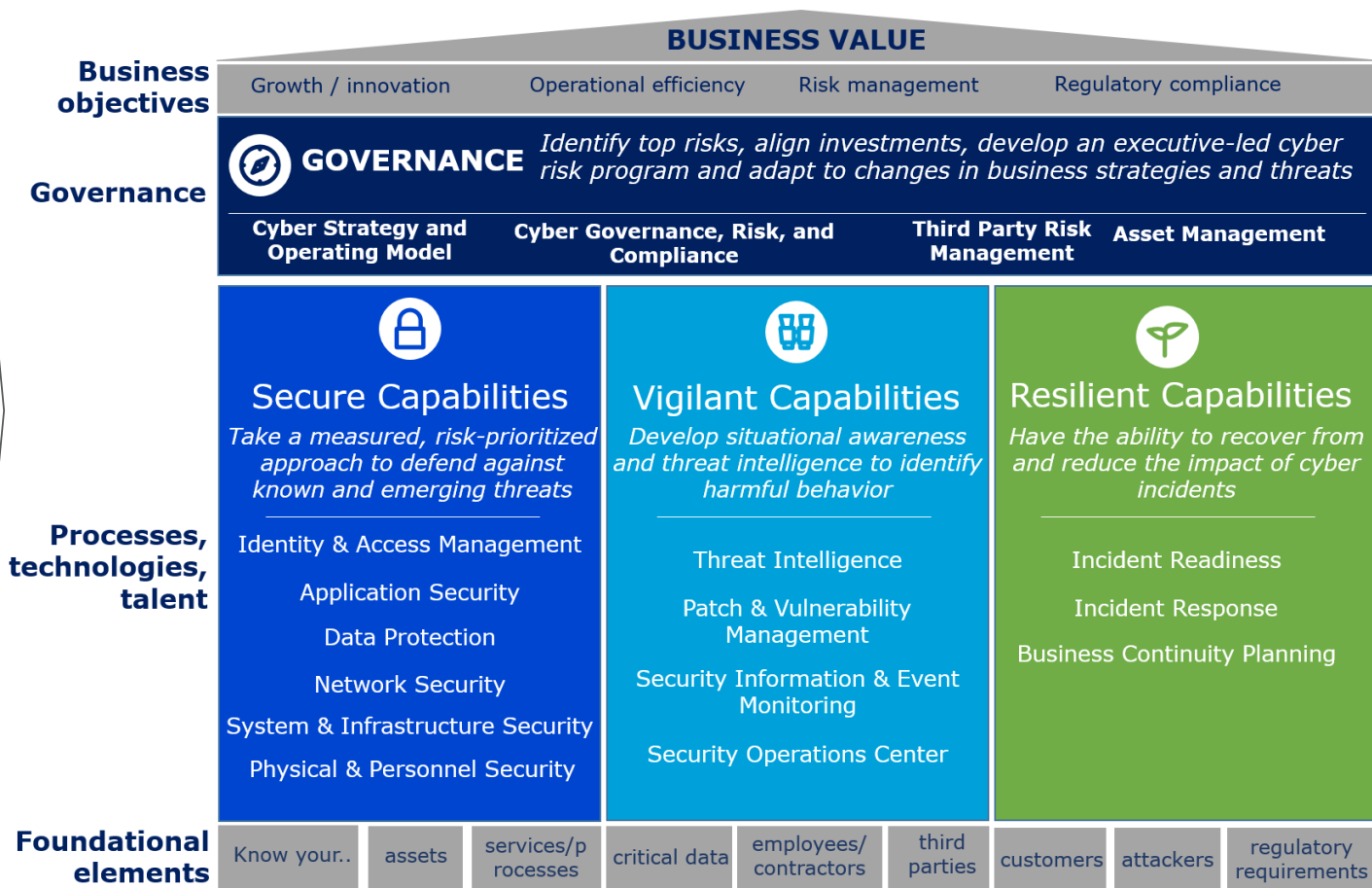


A framework for cybersecurity risk management

Industry leading practices and frameworks can be a valuable lens through which to evaluate an organization's security posture, maturity, and areas of potential enhancement.

- Inputs**
- Industry standards**
 - ISO⁴ 27001/2
 - COBIT⁵
 - NIST⁶ cybersecurity framework
 - Global privacy and data protection laws
 - ITIL⁷
 - Leading practices**
 - Innovative cyber capabilities
 - Practical knowledge by serving large clients
 - Published industry research
 - Threat landscape**
 - Who might attack?
 - What are they after?
 - What tactics will they use?

⁴ International Organization for Standardization
⁵ Control Objectives for Information and Related Technologies
⁶ National Institute for Standards and Technology
⁷ Formerly known as the Information Technology Infrastructure Library



Recent regulatory and compliance drivers

Broad regulatory pressure to tighten controls and visibility around operational risk persists, including those associated with the effectiveness of cyber risk management programs, disclosures, third parties and fraud.

The New York State Department of Financial Services ("NYDFS") issues finalized Cybersecurity Requirements (23 NYCRR 500) for financial services companies

The Office of Foreign Assets Control's ("OFAC") released sanctions regime to persons pursuing cyber-enabled activities

SWIFT issues Customer Security Controls Framework

The Federal Financial Institutions Examination Council ("FFIEC") release of a cybersecurity tool called CAT—Cybersecurity Assessment Tool

The American Institute of Certified Public Accountants ("AICPA") finalizes its cybersecurity risk management attestation reporting framework

The Securities and Exchange Commission ("SEC") adopts interpretive guidance on public company cybersecurity disclosures and issues an investigative report on business email compromises

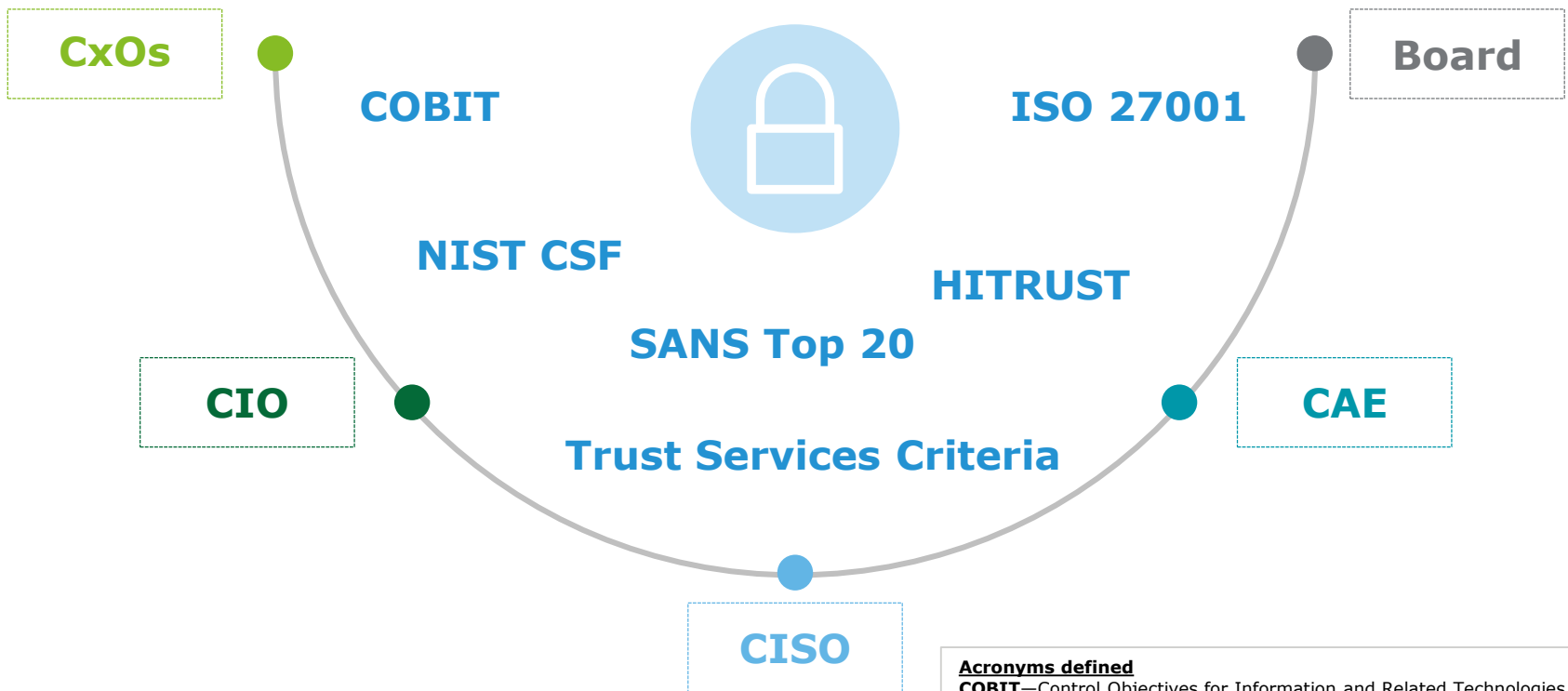
The Office of Compliance Inspections and Examinations ("OCIE") Cybersecurity Examination Initiative to assess cybersecurity preparedness in the securities industry

The EU approves and adopts General Data Protection Regulation ("GDPR") to harmonize data privacy laws across Europe

National Association of Insurance Commissioners ("NAIC") adopts the Insurance Data Security Model Law

Measuring without a common yardstick can cause confusion

Having a mechanism that establishes a common underlying language for cybersecurity risk management reporting can help organizations more effectively evaluate their cyber programs and facilitate consistent and transparent communication both across the enterprise and to external stakeholder groups.

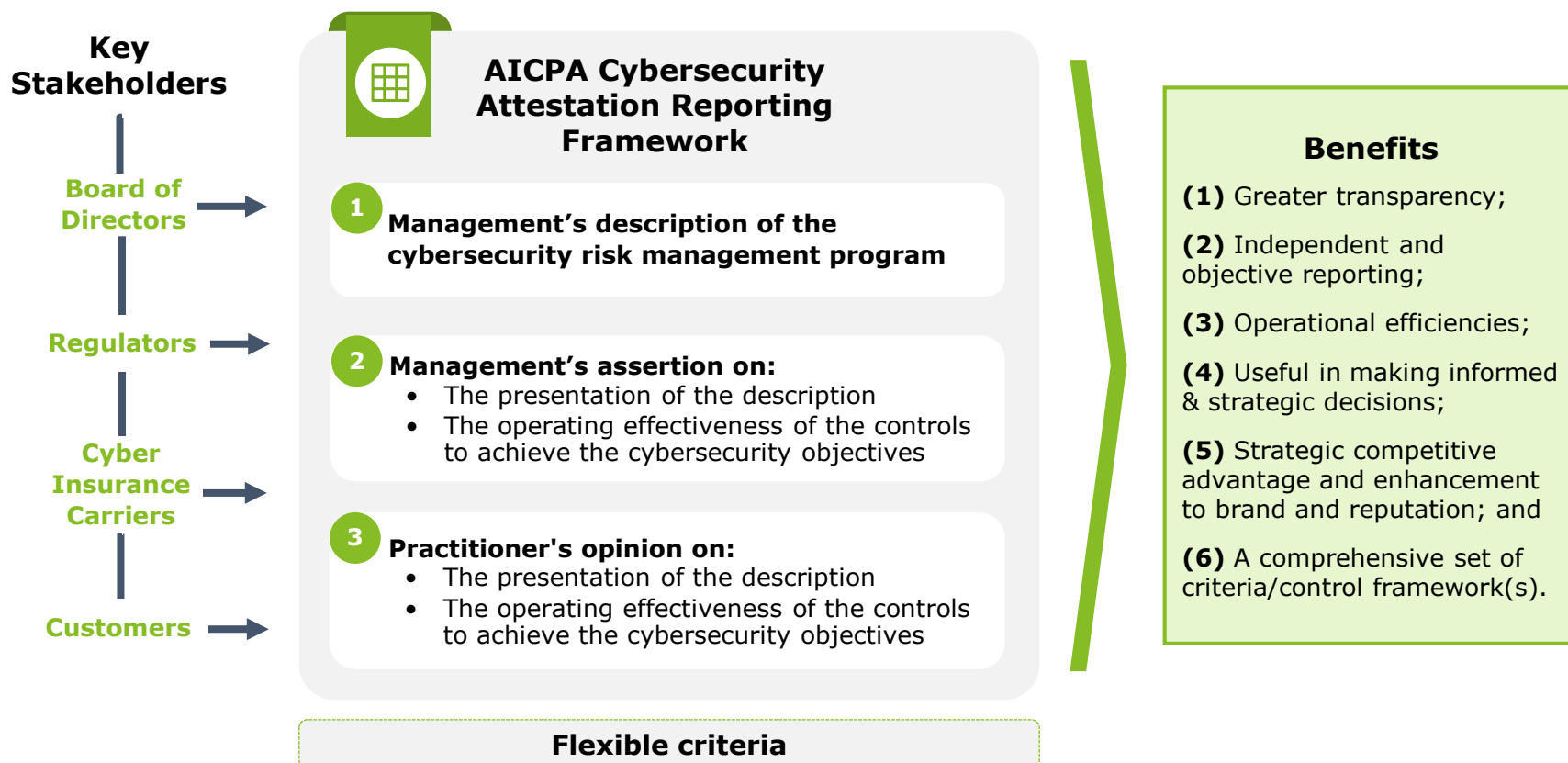


Acronyms defined

COBIT—Control Objectives for Information and Related Technologies
HITRUST - Health Information Trust Alliance
ISO—International Organization for Standardization
NIST CSF—National Institute of Standards and Technology Cybersecurity Framework
SANS - SysAdmin, Audit, Network and Security

AICPA's cybersecurity attestation reporting framework

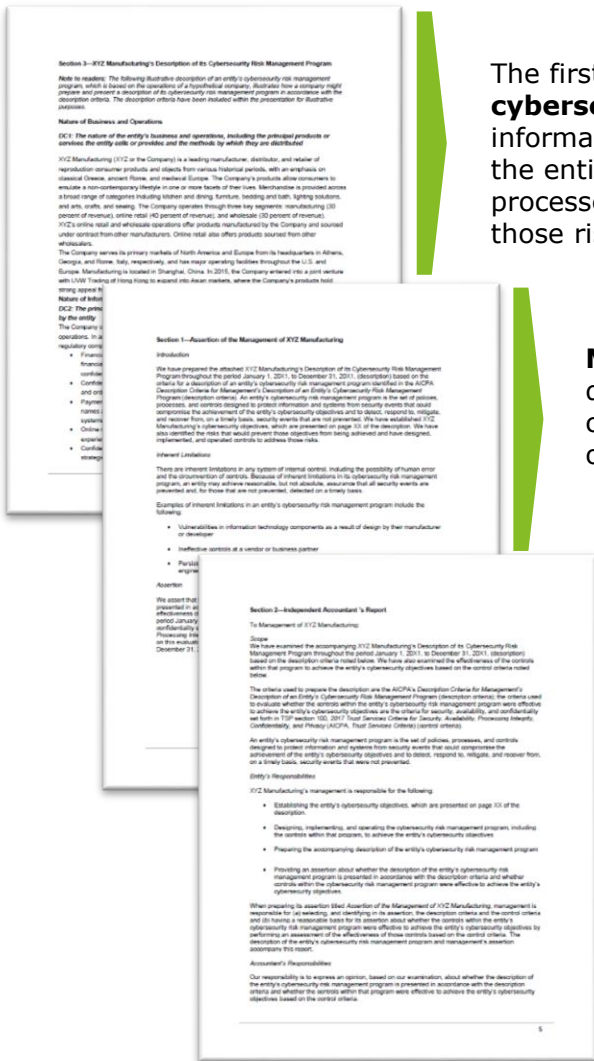
On April 24, 2017, the AICPA released its cybersecurity attestation reporting framework (SOC for Cybersecurity), which is intended to expand cyber risk reporting to address the marketplace need for uniformity and greater stakeholder transparency.



Source: Description Criteria for Management's Description of an Entity's Cybersecurity Risk Management Program
<https://www.aicpa.org/InterestAreas/FRC/AssuranceAdvisoryServices/Pages/AICPACybersecurityInitiative.aspx>

Contents of the report

Three sections make-up an entity's SOC for Cybersecurity report – (1) Management's description of its cybersecurity risk management program, (2) Management's assertion, and (3) the CPA firm's independent opinion.



The first component is a **management-prepared narrative description of the entity's cybersecurity risk management program**. This description is designed to provide information about how the entity identifies its most sensitive information, the ways in which the entity manages the cybersecurity risks that threaten it, and the key security policies and processes implemented and operated to protect the entity's information assets against those risks.

Management's assertion — Management provides an assertion about whether the description is presented in accordance with the description criteria and whether the controls within the program were effective to achieve the entity's cybersecurity objectives based on the control criteria.

The practitioner's opinion — The final component in the reporting framework is the CPA's opinion on the description and on the effectiveness of controls within that program.

Sources: <https://www.aicpa.org/content/dam/aicpa/interestareas/frc/assuranceadvisoryservices/downloadabledocuments/illustrative-cybersecurity-risk-management-report.pdf>

<https://www.aicpa.org/content/dam/aicpa/interestareas/frc/assuranceadvisoryservices/downloadabledocuments/cybersecurity-fact-sheet.pdf>

Management's description

Management's description is intended to provide users of the report with information that can help them understand the entity's cybersecurity risks and how it manages those risks.

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EXPANDED**

Trust Services Criteria for **Security, Availability, Processing Integrity, Confidentiality, and Privacy**

NEW

Description Criteria for **management's description** of the entity's cybersecurity risk management program

Description Criteria for management's description of the entity's cybersecurity risk management program:

Presents criteria established by the Assurance Services Executive Committee (ASEC) of the AICPA for use by **(a)** management, when preparing a description of an entity's cybersecurity risk management program, and **(b)** practitioners when evaluating that description, in connection with services performed on an entity's cybersecurity risk management program.

Applicability and use of description criteria:

- Examination of an entity's cybersecurity risk management program
- Consulting services

Suitability and availability of the description criteria:

- Relevance
- Objectivity
- Measurability
- Completeness

Categories of description criteria:

- Nature of business and operations
- Nature of information at risk
- Cybersecurity risk management program objectives (cybersecurity objectives)
- Factors that have a significant effect on inherent cybersecurity risks
- Cybersecurity risk governance structure
- Cybersecurity risk assessment process
- Cybersecurity communications and the quality of cybersecurity information
- Monitoring of the cybersecurity risk management program
- Cybersecurity control processes

Satisfying the needs of a variety of users

Stakeholders can benefit from a SOC for Cybersecurity report in a number of ways.



Board of Directors



Regulators



Customers



Cyber Insurance

Board-level reporting: The Board of Directors (including Audit Committee), and Senior Management have an important oversight role relative to cybersecurity. They need to be able to establish appropriate oversight of the company's cybersecurity risk management program, including the controls within that program to: 1) **thoughtfully assess management's assertions** about the design and effectiveness of the company's cybersecurity defenses; and 2) **credibly and understandably communicate related findings** to key stakeholders: like investors, counterparties, customers, regulators, and the public, as appropriate.

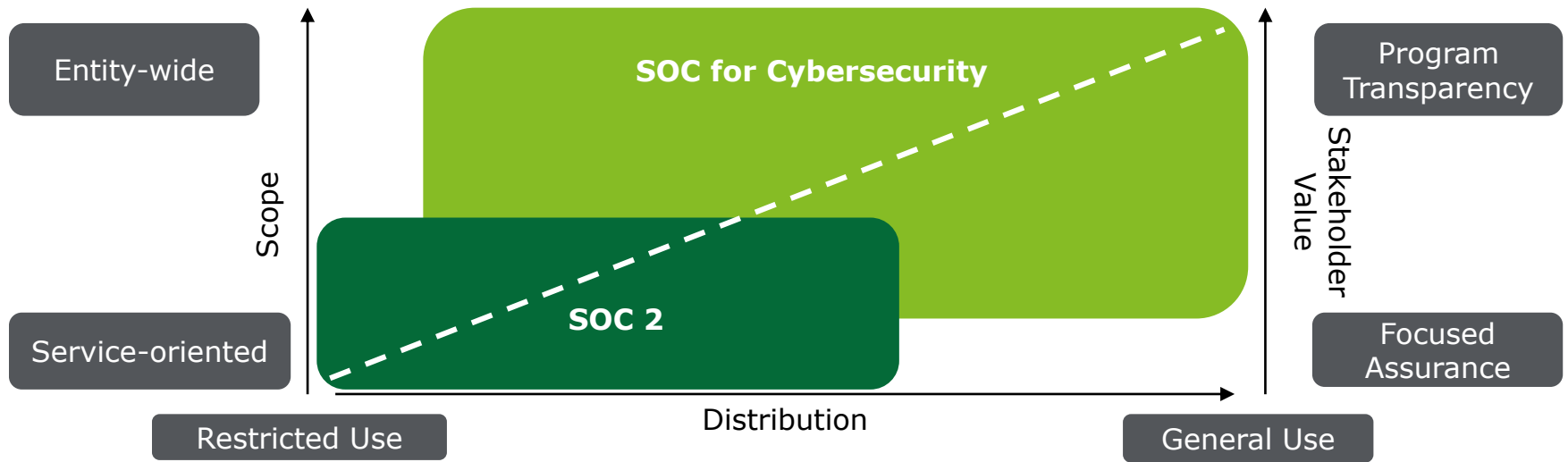
Regulatory pressures: The **NYDFS cybersecurity regulation** (effective March 1, 2017) for banks and insurers requires each company ("covered entity") to assess its specific cybersecurity risk profile and design a program based on a series of specific requirements that addresses its risks in a robust fashion. A "covered entity" will need to certify to its compliance with the NYDFS on an annual basis.

On February 20, 2018, the **SEC issued interpretative** guidance (to expand upon its 2011 guidance) to assist public companies when preparing disclosures about cybersecurity risks and incidents. It also conveys the Commission's views on the importance of maintaining comprehensive cybersecurity policies and procedures and the application of insider trading prohibitions in the context of cybersecurity.

Customers & prospective customers: Clients and potential clients of service organizations want to be sure that they are outsourcing tasks to an organization that takes cybersecurity as a serious matter and are addressing the relevant risks associated with the outsourcing of a function to a service organization.

Cyber insurance: A Cybersecurity Risk Management Examination report can potentially be leveraged by insurance carriers during the underwriting and risk assessment process by providing useful information about an entity's (customer's) cybersecurity risk management program, including the controls within that program, contributing to effective determination of coverage needs and policy pricing.

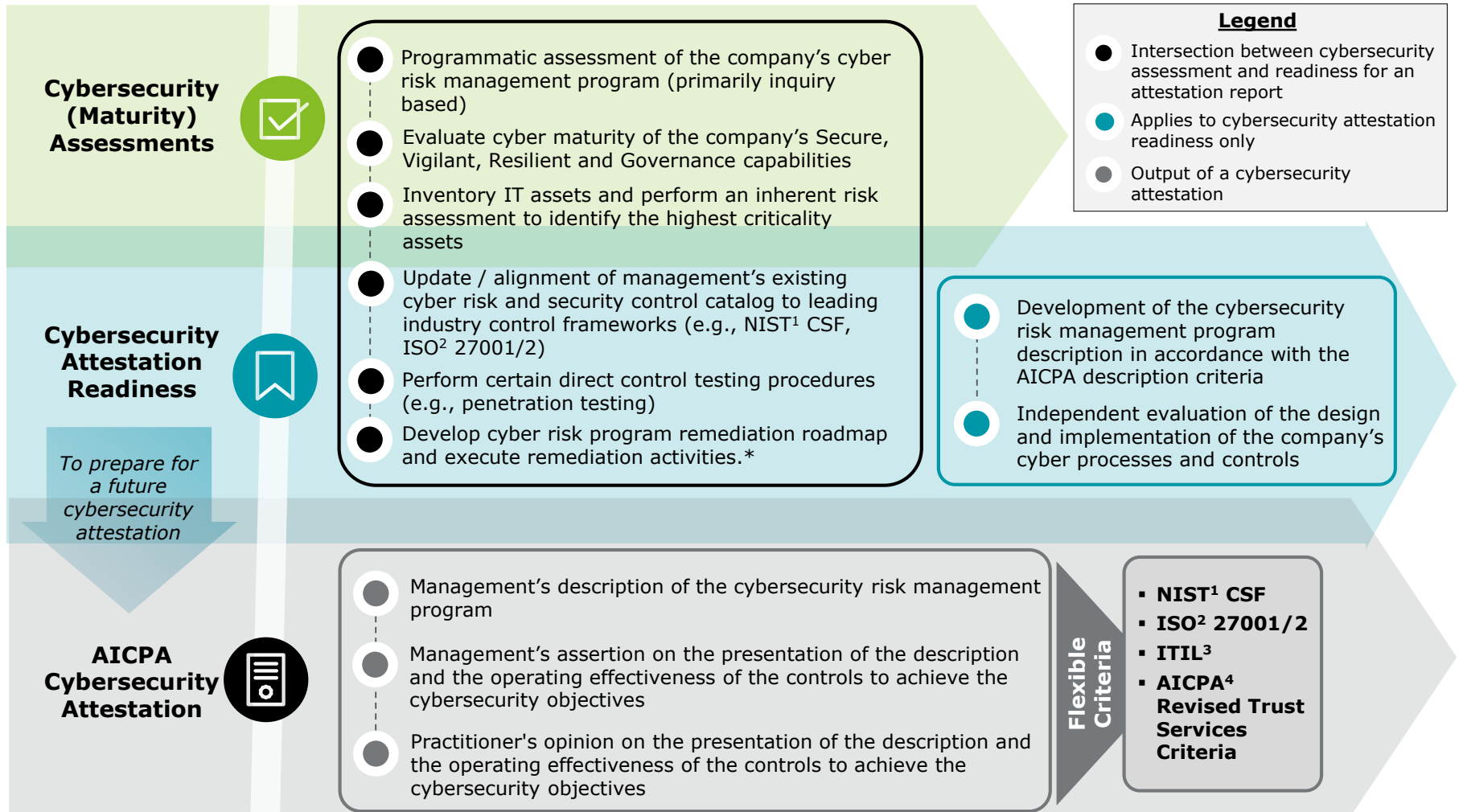
Comparison between SOC 2 & SOC for Cybersecurity



	SOC for Cybersecurity reporting	SOC 2 engagement
Purpose	Provide a variety of users with information about an entity's cybersecurity risk management program	Provide existing or prospective customers (system users) with information about controls at a service organization related to the Trust Services Criteria
Intended users	Management, directors, regulators, analysts and third parties	Management of the service organization and other specified parties with sufficient knowledge and understanding of the system
Criteria	Flexible (NIST CSF, 800-53, ISO 27001, etc.)	Trust Services Criteria
Report contents	Description of the cybersecurity risk management program, management assertion, and CPA firm's opinion	Description of the service organization's system, management assertion, practitioner's opinion, and description of tests of controls and results

Cybersecurity Assessments

There are various types of cyber assessments we perform as a firm. Cybersecurity attestation readiness to prepare for a future attestation is complementary to other services that we provide today. Depending on the company's overall cybersecurity maturity and key drivers (board oversight, regulation, response to an event, etc.) influencing the direction of the cyber program, there are options to understand the company's existing cyber capabilities.



Note: ¹ National Institute for Standards and Technology; ² International Organization for Standardization; ³ Information Technology Infrastructure Library; ⁴ American Institute of Certified Public Accountants

* D&T cannot provide remediation services to audit clients with the exception of providing input into management's remediation plan.

Inherent limitations of a cybersecurity risk management examination engagement

Inherent limitations (language included in illustrative practitioner's report/opinion)

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls. Because of inherent limitations in its cybersecurity risk management program, an entity may achieve reasonable, but not absolute, assurance that all security events are prevented and, for those that are not prevented, detected on a timely basis.

Examples of inherent limitations in a cybersecurity risk management program include the following:



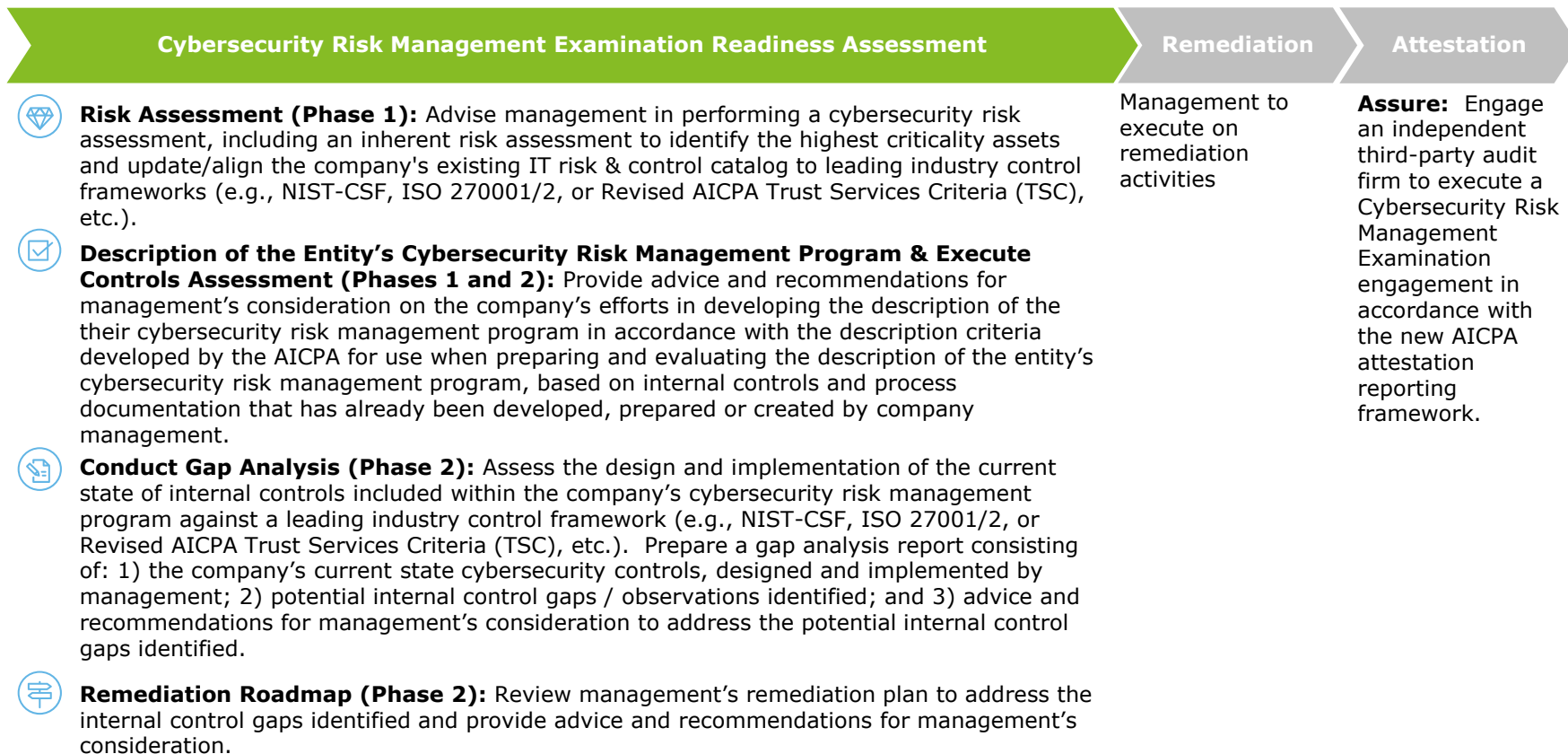
- Vulnerabilities in information technology components as a result of design by their manufacturer or developer
- Ineffective controls at a vendor or business partner
- Persistent attackers with the resources to use advanced technical means and sophisticated social engineering techniques specifically targeting the entity

Furthermore, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

The AICPA guide, *Reporting on an Entity's Cybersecurity Risk Management Program and Controls*, acknowledges the following as a fundamental tenet of cybersecurity: an entity that operates in cyberspace is likely to experience one or more security events or breaches at some point in time, regardless of the effectiveness of the entity's cybersecurity controls. Understanding this tenet is essential to dispelling user misconceptions that an effective cybersecurity risk management program will prevent all security events from occurring. In fact, because of inherent limitations in its cybersecurity risk management program, an entity may achieve reasonable, but not absolute, assurance that security events are prevented and, for those not prevented, that they are detected, responded to, mitigated against, and recovered from on a timely basis. In other words, an effective cybersecurity risk management program is one that enables the entity to detect security events on a timely basis and to respond to and recover from such events with minimal disruption to the entity's operations.

Preparing for a future cybersecurity examination

Given the varying levels of maturity of cybersecurity risk management programs, performing a cybersecurity examination readiness assessment prior to embarking on an attestation is key. The cybersecurity risk management examination readiness assessment approach consists of the following phases and key activities.:



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Q&A



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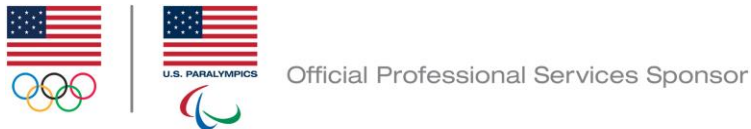
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