



NORTHROP GRUMMAN

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Combining Technology, Public Policy, and Economics to Create a Sustainable System of Cybersecurity





BNY MELLON













NATIONAL ASSOCIATION OF Manufacturers











ISA MAKES AN



Above: President Obama at the White House, releasing the "Cyberspace Policy Review" in May 2009.

A decade ago, there were two philosophies for how government and industry ought to address the growing cybersecurity problem.

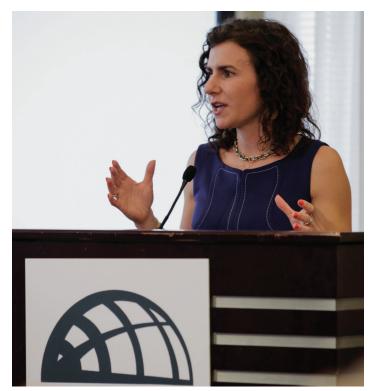
The Bush administration adopted a laissez-faire approach by arguing that natural market economics would lead to adequate security. The Obama philosophy was a Sarbanes-Oxley style regulatory model of government mandates and strict penalties for non-compliance.

In 2008, ISA proposed in our first Cyber Security Social Contract publication a third way: Government and industry should partner to identify standards and practices worthy of being promoted for voluntary adoption. That framework should be cost effective and supported by market incentives.

The ISA model has now become the bipartisan consensus approach to cybersecurity.

ISA successfully integrates thought leadership with economics and public policy to help create a sustainable system of cyber security.

- The House GOP Task Force on Cyber Security adopted ISA policy.
- The Presidential Commission on Enhancing National Cybersecurity adopted all of ISA's recommendations.
- The ISA Social Contract became the first and most often cited source in President Obama's "Cyber Space Policy Review."
- President Obama's Executive Order 13636 adopted the ISA model.
- Congress passed significant cybersecurity policy legislation in 2015, using liability incentives instead of mandates to promote cybersecurity information sharing.
- ISA led the US Chamber of Commerce, TechAmerica, BSA and the Center for Democracy and Technology in a coalition that embraced the ISA model in a panassociation white paper.



Above: Kiersten Todt, Executive Director of the Commission on Enhancing National Cybersecurity, speaks during the ISA $15^{\rm th}$ Anniversary Conference.

IMPACT ON POLICY

ISA was the only trade organizations asked to brief the 2016 Republican National Committee in Cleveland on cybersecurity, along with House Homeland Security Committee Chairman Mike McCall and former House Intelligence Committee Chairman Mike Rogers.

As part of the briefing, policymakers received advanced copies of "The Cybersecurity Social Contract: Implementing a Market-Based Model for Cybersecurity."

Left: former House Intelligence Committee Chair Mike Rogers. Middle: ISA President Larry Clinton discusses the Cybersecurity Social Contract. Right: House Homeland Security Chairman.



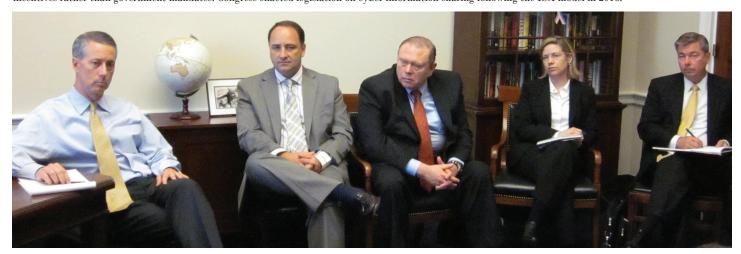
REPUBLICAN NATIONAL CONVENTION







Below: House Armed Services Chair Mac Thornberry meeting with the ISA board. Mr. Thornberry chaired the House GOP Task Force on Cyber Security. ISA was the first organization asked to testify before the task force, which adopted all of ISA's major recommendations on building cybersecurity through market incentives rather than government mandates. Congress enacted legislation on cyber information sharing following the ISA model in 2016.



ISA WORK WITH



DIRECTOR'S HANDBOOK SERIES
Prepared by Larry Clinton
President & CEO, Internet Security Alliance







Above: The "Cyber-Risk Oversight Handbook," prepared by ISA President Larry Clinton and published by the National Association of Corporate Directors, is available for free download at www.isalliance.org/cyber-risk-handbook.

In 2014, ISA and the National Association of Corporate Directors (NACD) published the first "Cyber-Risk Handbook." This publication has been independently assessed by PricewaterhouseCoopers and shown to dramatically improve enterprise cybersecurity. We issued a significantly updated version in 2017.

Working together, NACD and ISA have produced a unique and successful program that addresses cybersecurity as a board level issue – not simply an IT operational issue.

In April 2018, ISA and NACD will host a Global Summit on Cybersecurity for corporate boards in Geneva. The goal of this event is to create a coherent approach to cybersecurity based on the Handbook's principles but adapted to unique environments outside the United States. Starting in 2017, the ISA will hold events in the United Kingdom and Germany to prepare local versions of the handbook.

The "Cyber-Risk Oversight Handbook" is the only private sector publication that has been endorsed by the Department of Homeland Security and the Department of Justice. It has also been endorsed by

a wide variety of private sector organizations such as the Chamber of Commerce and the International Auditors Association.

ISA and NACD jointly produce an annual summit meeting on cybersecurity exclusively for corporate boards, where the ISA board members expand on the principles in the Handbook.



Homeland Security Deputy Assistant Secretary Danny Toler (left) and Justice Deputy Assistant Attorney General for National Security Adam Hickey (right) speak during the press conference launching the 2017 edition of the Cyber-Risk Handbook



ISA board members speak during a panel of the 2016 NACD/ISA Cyber Summit in Chicago, Ill. From right to left: Jeff Brown (Raytheon); Gary McAlum (USAA); Dustin Wilcox (Centene)

CORPORATE BOARDS



ISA President Larry Clinton (left) and NACD CEO Peter Gleason (right) launch the 2017 edition of the "Cyber-Risk Oversight Handbook" during a press conference held at the National Press Club in Washington, D.C.

"Guidelines from the NACD advise that Boards should view cyberrisks from an enterprise-wide standpoint and understand the potential legal impacts.

Boards appear to be listening to this advice. This year we saw a double-digit uptick in Board participation in most aspects of information security. Deepening Board involvement has improved cybersecurity practices in numerous ways. As more Boards participate in cybersecurity budget discussions, we saw a 24% boost in security spending. Other notable outcomes cited by survey respondents include identification of key risks, fostering an organizational culture of security and better alignment of cybersecurity with overall risk management and business goals."

-PricewaterhouseCoopers Global State of Information Security Survey 2016

ISA'S CYBERSECURITY SOCIAL CONTRACT

ISA published in 2016 an updated and extended edition of the Cybersecurity Social Contract. The book's recommendations for the next administration and Congress weren't written by consultants or academics. They came from experts whose day job is fighting cyber threats at the highest levels.

Members of the ISA board (principally CISOs from 12 industry sectors) each wrote a chapter detailing the unique cybersecurity issues their sector faces, the barriers they must work through to manage these issues and specific policy recommendations.

The publication also covers a range of cross-cutting issues such as educating corporate boards of directors, needed reforms to the cybersecurity auditing process, how insurance could best be used to transfer risk, how the federal government should be restructured for the digital age, resolving tensions between privacy and security and improving public-private partnerships.



The Cybersecurity Social Contract: Implementing a Market-Based Model for Cybersecurity is an attempt to provide a coherent and systemic framework for collaborative action. Advanced technology needs to be integrated with practical economics and thoughtful public policy to create a sustainable system of cybersecurity.

We are already seeing these recommendations being enacted, which is not surprising given the widespread independent endorsements the new publication has received.



ISA board members and *The Cybersecurity Social Contract* authors discuss their policy objectives during the ISA 15th Anniversary Conference. From left to right: Dustin Wilcox (Centene), Bob Zandoli (Bunge), Brian Raymond (National Association of Manufacturers), Richard Spearman (Vodafone)

PRAISE FOR ISA'S CYBERSECURITY SOCIAL CONTRACT



"The Cybersecurity Social Contract is a comprehensive assessment of the state of cybersecurity and offers the administration and Congress a road map for sensible and practical progress dealing with urgent security issues."

-Michael Chertoff, Executive Chairman and Cofounder, the Chertoff Group, former Secretary, Department of Homeland Security



"What an accomplishment. The Internet Security Alliance continues to prove its thought leadership by laying out a practical framework that integrates technology, government policy and business economics."

-Air Force General Charlie Croom (Retired), Senior Vice President and Director, a Account Executives, Leidos



"This well-researched and documented book is the most comprehensive work to date in addressing these issues. I strongly recommend the administration and the Congress adopt the recommendations of this work."

-Admiral Mike McConnell (Retired), former Director of National Intelligence; former Director, National Security Agency



"The Cybersecurity Social Contract blends for the first time real world economics and politics of cybersecurity. This volume offers the incoming administration the best hope for making serious progress."

-Pradeep Khosla, Chancellor, University of California-San Diego; former Dean, College of Engineering, Carnegie Mellon University



"The Cybersecurity Social Contract provides a thoughtful roadmap of recommendations that places risk management principles at the core of the next administration's cybersecurity agenda."

-Melissa Hathaway, President, Hathaway Global Strategies, former Director of the Joint Interagency Cyber Task Force



"The Cybersecurity Social Contract presents a comprehensive overview of why we have failed to get our arms around these issues—including privacy—and what the next administration needs to do to avoid catastrophe."

-Art Coviello, Jr., Executive Chairman (Retired), RSA

ISA ON



First row left: ISA President Larry Clinton and Rep. Will Hurd (R-Texas), chairman of the House Oversight and Government Reform subcommittee on information technology during ISA's 15th Anniversary Conference. First row right: Rep. Mac Thornberry (R-Texas) meets with the ISA board. Second row: Sen. Mike Rounds (R-S.D.), chairman of the Senate Armed Services subcommittee on cybersecurity, meets with members of the ISA board. Third row left: Sen. Sheldon Whitehouse (D-R.I.) meets with the ISA board. Third row right: House Cybersecurity Caucus Co-Founders Reps. Mike McCaul (R-Texas) and Jim Langevin (D-R.I.) host a ISA briefing for caucus members.

CAPITOL HILL



The Internet Security Alliance has a long history of advocating for market-driven cybersecurity policy before Congress.



First row left: Sen Cory Gardner (R-Colo.), cofounder of the Senate Cybersecurity Caucus, meets with the ISA board. First row top right: Rep. Bennie Thompson (D-Miss.), then chairman of the House Homeland Security Committee, meets with the ISA board. First row bottom right: Rep. Ed Markey (D-Mass.) meets with ISA President Larry Clinton. Middle row left: Sen. Joe Lieberman (I-Conn.) meets with the ISA board. Middle row right: Rep. Peter King (R-N.Y.), then chairman of the House Homeland Security Committee, meets with the ISA board. Bottom row: Sen. Susan Collins (R-Maine) meets with the ISA board.

GETTING THE TO CONGRESS



Since 2001, ISA has been asked to provide congressional testimony twenty times. The expertise and diversity of perspective provided by ISA and its member companies is critically needed to create an effective and sustainable cybersecurity policy.



Top row left: ISA President Larry Clinton testifies before the House Energy & Commerce Committee. Top row right: Clinton testifies before the House Science, Space, and Technology Committee. Middle row left: Clinton testifies before the Senate Judiciary Subcommittee on Terrorism and Homeland Security. Middle row right: Clinton testifies before the House Oversight and Government Reform Committee. Bottom row: the ISA board leaves the Senate after a day of briefing members.

MESSAGE OUT & THE MEDIA



ISA is one of the premier advocates for framing cybersecurity as an enterprise risk management problem and for incentivizing the private sector for better cybersecurity. ISA increases awareness through a multimedia effort.

ISA regularly facilitates the participation of its sponsors in its creative and innovative programs.



ISA SPEAKS, THE MEDIA LISTENS



OUTLETS THAT HAVE RELIED ON THE ISA FOR EXPERTISE:

The New York Times









POLITICO*Pro*









THE WALL STREET JOURNAL.

INTERNATIONAL OUTREACH

Cybersecurity is a problem that knows no national boundaries.



ISA President Larry Clinton was asked to brief the NATO Cyber Security Center for Excellence in Tallin, Estonia on the effects of increased regulation in cybersecurity and offered a comparative analysis of European cybersecurity programs as compared to the more effective Asian programs.

ISA has been on the forefront of international outreach in an effort to raise awareness and harmonize approaches in multiple locations across the globe. We collaborate with the German Federal Office for Information Security and have participated in State Department-sponsored cybersecurity evangelism trips to India and Mexico.

ISA President Larry Clinton has briefed the Organization of American States in Argentina and keynoted a conference of the World Institute for Nuclear Security in Vienna, Austria.



Arne Schönbohm (left), president of the German Federal Office for Security and Information Technology (BSI) during an ISA-hosted dinner. At right is Northrop Grumman Chief Information Security Officer Michael Papay.



ISA President Larry Clinton speaks before the Cyber Society of India.





Above: State Department Coordinator for Cyber Issues Christopher Painter speaks during an ISA board meeting. Left: ISA President Larry Clinton spoke to a meeting of the World Economic Forum in Berlin about the NIST Cybersecurity Framework.

BOARD SALON DINNERS





We use the dinners as an opportunity to give out the McCurdy Award, an award named after our founder, former Rep. David McCurdy, and given only exceptional innovators in cybersecurity policy.



THE McCURDY AWARD



15TH ANNIVERSARY CONFERENCE









Conference speakers above left to right: John Carlin, Assistant Attorney General for the Justice Department National Security Division; ISA board member Jim Connelly (Lockheed Martin); ISA board member JR Williamson (Northrop Grumman); Suzanne Spaulding, under secretary for the national programs and protection directorate at the Department of Homeland Security. Below left: ISA board member Andrew Cotton (EY) introduces a panel. Below right: ISA board member Dan Crisp (BNY Mellon).

When we began in 2001, the ISA was the only organization in Washington, D.C., dedicated to advocating for a market-run model of cybersecurity.

Flash forward 15 years, and we still occupy a unique position in the nation's capital – but we have numerous friends, many who joined us to discuss and celebrate during a day-long conference 15 years of advocacy for a market-based model of sustainable cybersecurity.







ISA board member Larry Trittschuh (Synchrony Financial) moderates a panel featuring ISA board members (left to right) Jeff Brown (Raytheon), Gary McAlum (USAA) and Scott DePasquale (Utilidata).

HELPING TO CREATE MORE EFFECTIVE CYBERSECURITY AUDITS

Another area where ISA provides thought leadership leading to practical changes and improvements in cybersecurity is cyber audits and assessments.

Most organizations are more concerned with the auditor than the cyber attacker. Getting cybersecurity assessments to be more effective and useful is an urgent need.

The ISA board became the first entity to be used by the American Institute of CPAs (AICPA) as a "focus group" for the reformed models the audit community is working on to improve the cyber assessment process.



Above: Chris Halterman (left), chair of the AICPA Assurance Services Executive Committee, briefs the ISA board on how the profession is embracing a new approach to cybersecurity, turning away from "audits" to "assessments." Below: Arne Schönbohm (right), president of the German Federal Office for Information Security meets with Cindy Fornelli (middle), executive director of the Center for Audit Quality and ISA President Larry Clinton (left) at the Center's downtown Washington, D.C. office.

ISA is working with the audit community and bringing in other interests including the US Chamber of Commerce to define a process more in tune with the forward-looking risk management process needed to address cyber threats and distinguish the process from the more backward looking financial audit model.



15 YEARS OF

2001 – The Internet Security Alliance is founded in collaboration with Carnegie Mellon University as a unique, multi-sector international trade association that combines the thought leadership of a think tank with advocacy and the programs of a professional association.

2003 – ISA creates its first set of best practices guides to combat insider threats, long before insiders were a well-appreciated risk.

2005 – ISA chairs the congressionally appointed Cross Sector Cyber Security Working Group Committee, which focuses on the use of market incentives, rather than regulation, the way to improve private sector cybersecurity.

2008 – ISA publishes its watershed "Cyber Security Social Contract," a set of policy recommendations

for the incoming Obama administration and the new Congress. The document formulates the ISA's belief that market incentives, not centralized government regulations, is the key to spur on private sector investment into cybersecurity.

In conjunction with the American National Standards Institute, ISA publishes "The Financial Impact of Cyber Risk: 50 Question every CFO Should Ask," one of the earliest documents to frame cybersecurity with a risk-management lens for a business audience. The document guides chief financial officers through targeted questions to ask key corporate departments, such as legal, compliance, external communications and business operations.

2009 – ISA's "Cyber Security Social Contract" is the first and most frequently cited source in the administration's 60-day Cyberspace Policy Review. The executive summary of this National Security



Jeffrey Ritter, president of Ritter Academy with ISA board member Ken Silva (Verisign, 2005-2009) at the 2006 launch of an ISA best practices guide for incorporating cybersecurity into commercial contracts.

Council staff-authored official report begins and ends by citing the "Social Contract." And, like the "Social Contract," it urges the government to look into the development of market incentives as a means to advance cybersecurity.

2010 – ISA publishes the "Social Contract 2.0," which follows up on the 2008 document by providing an outline to implementing the president's market incentive recommendations.

2011 – The House GOP Task Force of Cyber Security adopts the core ISA policy position that Congress should create a "menu of market incentives tied to the voluntary adoption of cyber security measures," language taken verbatim from ISA's "Social Contract" and "Social Contract 2.0" as well as from ISA congressional testimonies.

A coalition of five industry and civil liberties groups led by the ISA, including the U.S. Chamber of Commerce, TechAmerica, the Business Software Alliance (BSA), and Center for Democracy and Technology (CDT), all adopt a set of recommendations similar to the Cybersecurity Social Contract.

ISA holds a 10th Anniversary conference and Homeland Security Secretary Janet Napolitano keynotes.

ISAVISION & ACTION

2012 – The Senate rejects the Collins-Lieberman cybersecurity bill, which would have modeled cybersecurity on Sarbanes-Oxley. ISA worked diligently in the halls of Congress to educate members on the dangers posed by this approach.

2013 – As directed by Executive Order 13636, the National Institute of Standards publishes a draft outline of the Cybersecurity Framework. The very first source cited in the draft report is the ISA's 2008 publication "Financial Management of Cyber Risk." Fidelity Investments announces it will use the same publication as core material for their fall conference for chief information security officers and CEOs. This year, the ISA board also authors "The Advanced Persistent Threat: Practical Controls that Small and Medium-Sized Business Leaders Should Consider Implementing," a real-world guide for improving cybersecurity.

2014 – The NIST Cybersecurity Framework version 1.0 is published, with the ISA at the forefront of shaping its final form. This year we also collaborate with the National Association of Corporate Directors to produce the first "Cyber-Risk Oversight Handbook," which receives endorsement from the Department of Homeland Security.

2015 – Congress passes and the president signs the Cyber Security Act of 2015, which adopts the ISA recommendation of extending liability protection to companies seeking to share cyber threat information.

2016 – ISA publishes "The Cybersecurity Social Contract: Implementing a Market-Based Model for Cybersecurity" as a policy guide for the incoming administration and Congress. Written by our members, the book is circulated at the Republican National Convention in Cleveland, where ISA is the only trade association to participate in cybersecurity briefings. We hold a well-attended conference timed to our 15th anniversary featuring speakers from the administration and Capitol Hill to launch the book and the policy suggestions contained in it.

The President's Commission on Cyber Security adopts all 12 of ISA's major recommendations from the book.



ISA board members Bob Zandoli (Bunge) and Joe Buonomo (Direct Computer Resources) at the reception of the ISA $15^{\rm th}$ Anniversary Conference.

PricewaterhouseCoopers's annual Global Information Security Survey cites the ISA-NACD "Cyber-Risk Handbook" by name for having a substantial impact on how corporate boards address cybersecurity.

2017 – ISA and the National Association for Corporate Directors publish an updated version of the "Cyber-Risk Oversight Handbook," which receives unprecedented endorsement from the Department of Justice and the Department of Homeland Security.

ISA SPONSORS RATE THE VALUE PROPOSITION

Each year ISA polls its sponsor companies asking how well, on a scale of 1-5, they feel ISA is fulfilling the organization's goals. Below are the most recent responses for these questions (1 = not meeting the goal/value; 5 = maximum goal/value).

ISA is supported entirely by member company annual dues. Sponsorships, which include a seat of the board and premium service, are \$70,000. Contact Larry Clinton at lclinton@isalliance.org or at (703) 907-7090 for more information.

AWARDS

ISA values independent recognition, since it validates the thought leadership, advocacy and dedication of its members.

We've been honored with:

- National Association of Corporate Directors (NACD) Directorship 100 – 2016
- SC Magazine 2016 Editor's Choice Award for Leadership and Excellence in Cybersecurity
- NACD Directorship 100-2015
- Online Trust Alliance Excellence in Online Trust 2010



WHAT OUR SPONSORS SAY ABOUT THE ISA

"ISA turns out a ton of work and is constantly raising the bar. For example, the work with the NACD, which has taken off and is growing to worldwide influence.

Tim McKnight, Chief Information
 Security Officer, Thomson Reuters, and formerly board member from Northrop
 Grumman, Fidelity and GE

"I don't know what else ISA could do to promote better cybersecurity."

Jeff Brown, Chief Information Security Officer, Raytheon

"ISA's thought leadership is a great value to us. On public policy it is very influential and we think it's important for us to be working with them. It's fantastic, really critical."

Janet Bishop-Levesque, ChiefInformation Security Officer, RSA

"ISA has fantastic depth of contacts which speaks to years of careful and successful effort."

Richard Spearman, Group Corporate
 Security Director, Vodafone

"I don't know what else we could ask from ISA, they are very productive. The ISA flag is well known and its brand is strong."

Gary McAlum, Chief Security Officer,
 Senior Vice President of Enterprise
 Security, USAA

"We all get recruited by other companies, if I decide on joining another, I tell them we have to be involved in government policy and as a current member of the ISA board, being a member of ISA is an unconditional prerequisite to my joining."

Bob Zandoli, Chief Information
 Security Officer, Bunge, formerly board
 member from AIG

"Thought leadership is ISA's sweet spot. I couldn't rate them any higher, it's fantastic."

JR Williamson, Corporate Chief
 Information Officer, Northrop Grumman

"The Cyber-Risk Handbook prepared by the ISA for the NACD is one of the most frequently used cyber publications for the education of U.S. board members. The ISA agenda of developing a sustainable approach to enterprise cybersecurity is aligned with our guidance to corporations."

- Andrew Cotton, Partner, EY

"ISA hits it out of the park. It's very beneficial for us to work with ISA."

Brian Raymond, Director of
 Technology Policy, National Association of
 Manufacturers

ISA BOARD OF DIRECTORS



Jeff Brown
ISA Board Chairman
Raytheon
Chief Information Security Officer



Gary McAlum
ISA Board Vice Chairman
USAA
Chief Security Officer, Senior Vice
President of Enterprise Security



JR Williamson
ISA Board Second Vice Chairman
Northrop Grumman
Corporate Chief Information Officer



Tim McKnight
Thomson Reuters
Executive Vice President and Chief
Information Security Officer



Tracie Grella AIG Global Head of Professional Liability Financial Lines



Larry Trittschuh Synchrony Financial Threat and Vulnerability Leader Information Technology



Bob Zandoli
Bunge
Chief Information Security Officer



Jim Connelly Lockheed Martin Vice President and Chief Information Security Officer



Tim McNulty
Carnegie Mellon University
Associate Vice President for
Government Relations



Richard Spearman Vodafone Group Corporate Security Director





Catherine Ide
Center for Audit Quality
Senior Director of Professional
Practice



Daniel Crisp BNY Mellon Chief Information Risk Officer and Head of Technology Compliance



Ed Hammersla Utilidata CEO



 $\begin{array}{c} \textbf{Nasrin Rezai} \\ \textbf{GE} \\ \textbf{Chief Information Security Officer} \end{array}$



 $\begin{array}{c} \textbf{Steve Hull} \\ \textbf{Leidos} \\ \textbf{Chief Information Officer} \end{array}$



Anthony Masgio
Centene
Director of Information Security



Andrew Cotton EY Partner



Joe Buonomo
Direct Computer Resources
President and CEO



David EstlickStarbucks
Chief Information Security Officer



Brian Raymond
National Association of
Manufacturers
Director of Technology Policy



Larry Clinton Internet Security Alliance President and CEO