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# CYBER SECURITY SUMMIT

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**CYBER SECURITY SUMMIT 2019**

October 28–30, 2019 | Minneapolis, MN

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>2.9M

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Source: ISC<sup>2</sup>

\$2T

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Source: Juniper Research

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Source: Bureau of Labor Statistics

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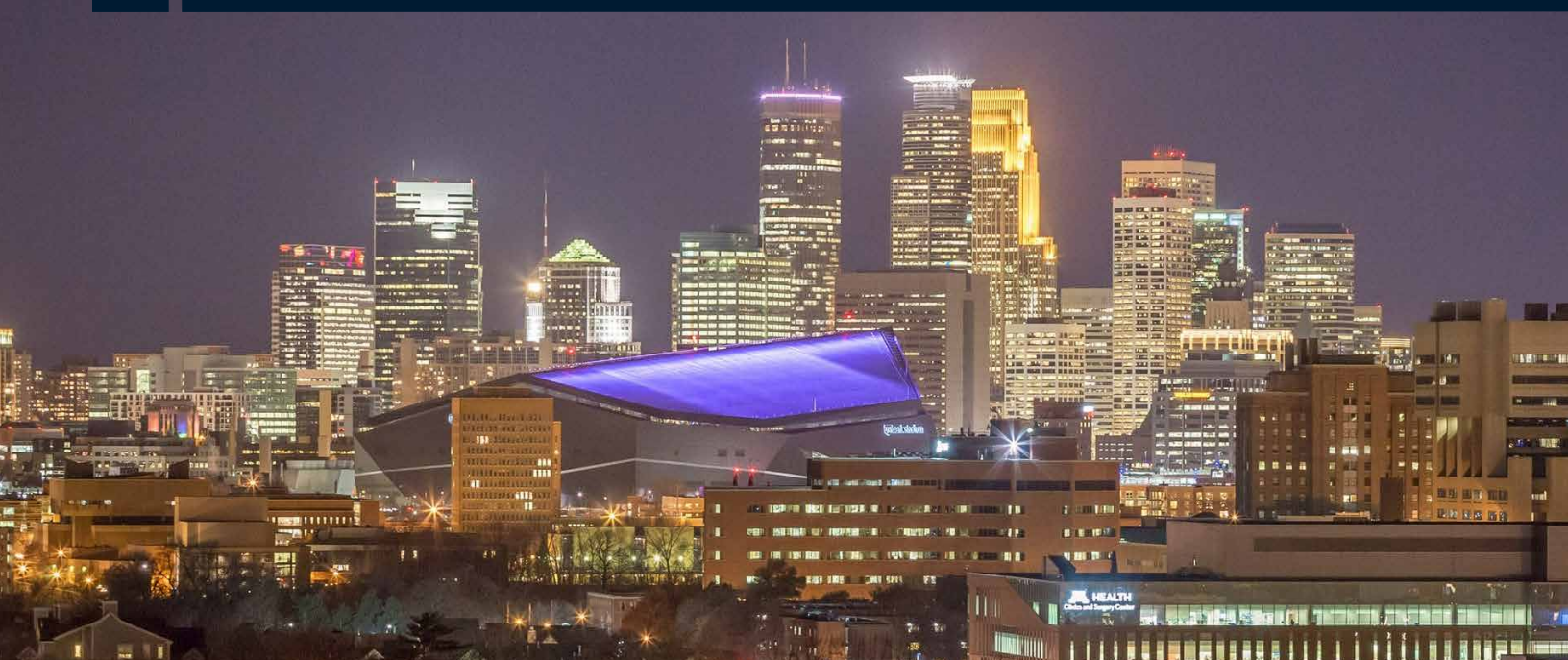
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## Maximize Your Exposure in 2020

The 2019 Cyber Security Summit would not have been possible without the efforts, commitment and expertise of all who were involved. Sign up to sponsor Cyber Security Summit 2020 today and receive a 10% discount through December 31, 2019. For more information, contact our sponsorship sales consultants:

Companies (A-M) – Jennifer Churchill 763-548-1306 jennifer.churchill@eventshows.com  
Companies (N-Z) – Stephen Burk 763-548-1303 stephen.burk@eventshows.com





# Welcome to our Ninth Annual Cyber Security Summit

**The Cyber Security Summit brings together people with different viewpoints on the cybersecurity problem to hear from experts, learn about trends and discuss actionable solutions.**

## **Tim Crothers**

2019 Co-Chair  
Cyber Security Summit

## **Catharine Trebnick**

2019 Co-Chair  
Cyber Security Summit

## **Stefanie Horvath**

2019 Program Chair  
Cyber Security Summit

## **Eileen Manning**

Executive Producer  
Cyber Security Summit

Thank you for joining us for our 2019 Summit. We're delighted to see old friends and welcome new ones. Summit content evolves as fast as the attack vectors that confront us. We address the offensive onslaught head-on. Our theme is Pushing the Cyber Security Envelope. It speaks to embracing the challenge to do more than just respond to attacks. Now and for the future, we need to strive to get ahead of attacks.

This Summit has been fortunate to attract world cyber security thought leaders as speakers to share insider insights on the timeliest issues. We're thankful that so many luminaries invest their commitment to promote this Minnesota innovation hub. These leaders who serve in top posts in business, government and academics graciously help us recruit yet others to present emerging issues to you.

This ninth Summit again reflects a forward look at the state of cyber security. New this year are half-day sessions -- Women in Cyber Security, plus 16 Technical Tracks on Monday, Oct. 28, along with the third annual Healthcare and Medical Device Cyber Security event. There also are special sessions tailored to Small- and Mid-Size Business, students, CISOs, legislators, international attendees and more.

In the main two-day Summit, we present

dynamic Keynote Speakers and a power-packed line-up of other specialized speakers and panels. To foster engagement and greatly simplified networking, we introduce a newly expanded version of Roundtable Discussions as part of Lunch Encounters on Tuesday, Oct. 29. Each Roundtable will display one of nine discussion topics and Moderators will be present to lead conversations. Enjoy lunch at a table with your chosen topic. We believe you will find this valuable.

Recognizing cyber security professionals is a Summit tradition. More of our peers became eligible for Visionary Leadership Awards last year since we opened categories representing additional vulnerability fronts. Cyber security people often work apart from others, supporting operational security, alone and unrecognized. It's fitting that we acknowledge their contributions here. We will award a field of eight deserving individuals and a special one-time award. If you haven't already signed up to attend this worthy event on Tuesday, Oct. 29, there are still a few seats available. Check at the registration table for information.

We bring Cyber Security Summit to you with the beneficial help of our Think Tank and vital support from our sponsors. Please visit our valued vendors to discover the resources available.



Please visit our sponsors and exhibitors, without their support the cost to provide this Summit registration would be tripled. By agreeing to have your badge scanned on-site at the Summit, you are agreeing to have your contact details provided to the sponsors who interacted with the attendee. The contact details will be used by said sponsors to follow up on such interactions.



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## Questions?

Find help from staff at the registration desk in the front of the expo hall.



Network: **cyber security summit**  
Password: **css2019!**

## Highlights

### Continuing Education Credits

Summit participation fulfills up to 24 hours of continuing education credits, depending on organization and sessions you participate in.

### Networking

Build relationships with delegates from around the U. S. and at least 8 countries throughout the world. Networking is even easier now. See Lunch Encounter Roundtable Discussions section, below.

### Expo Reception

Join us Tuesday for cocktails and appetizers in the EXPO area and network with fellow attendees, industry thought leaders and our solution strategy partners.

### Lunch Encounter Roundtable Discussions

Lunch tables are designated for specific topics and Moderators will be present to help move the discussions forward. A great way to join peers, share ideas and engage in low-key networking. Bring business cards to share and plan for an easy way to enhance your visit to Cyber Security Summit 2019.

### Visionary Leadership Awards Dinner & Gala

Join us on Tuesday, Oct. 29 at 6:00 p.m. to help us recognize peers for their diligent performance and achievement of our high industry standards when we acknowledge some unsung heroes. If you don't have tickets yet, a remaining few are available. Check at the desk at your earliest opportunity.

### Security Solutions Interviews

During the Summit, you may notice Keynotes and other experts being interviewed. After the Summit, podcasts of these interviews will be available at [cybersecuritysummit.org/2019-videos](https://cybersecuritysummit.org/2019-videos) to view and share with others in your organization. Video interviews are a way to gain more knowledge from the Summit.

## 2020 VIP All Access Pass Giveaway

### Want a chance to win a free All-Access VIP Pass to Cyber Security Summit 2020?

If you post real time comments about this Summit on Twitter, Facebook or LinkedIn you will be entered in the drawing. Blog on two sites for two chances to win! Blog on all three social media sites for three chances to win! Winner will be announced on Wednesday afternoon at the conclusion of this year's Summit. Good luck!

Post your comments about the Summit at [#cybersummitMN](https://twitter.com/cybersummitMN)



/cyber-security-summit



/cssummit



/cs\_summit

## SUMMIT CO-CHAIRS



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Target



**Catharine Trebnick**  
Dougherty & Company LLC



**Jill Allison**  
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**Massoud Amin**  
University of Minnesota



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**Steen Fjalstad**  
Midwest Reliability  
Organization



**Mary Frantz**  
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**Sam Grosby**  
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**Judy Hatchett**  
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**Stefanie Horvath**  
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Services



**Bob Hoschka**  
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**Tony Sager**  
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**Phil Schenkenberg**  
Briggs and Morgan, P.A.



**Melissa Seebeck**  
Delta Air Lines



**Jeremy Swenson**  
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**Wade VanGuilder**  
Symantec



**Chris Veltsos**  
MN State University,  
Mankato



**Aaron Verdell Call**  
MN.IT Services



**Lee Ann Villella**  
FRSecure



**Kathy Washenberger**  
Deluxe



**Kristi Yauch**  
TCF Bank



# 2019 Committees

## COMMITTEE MEETING HOSTS

Jill Allison Kudelski Security; Barb Fugate, United Bankers' Bank; Bob Hoschka, Computex; Michael Larson, ECOLAB; Emily Marier, Slumberland; Jerrod Montoya, OATI; Greg Ogdahl, MoneyGram; Frank Ross, General Mills; Catharine Trebnick, Dougherty.

## GLOSSARY OF TERMS

David LaBelle, NorSec\*\*.

## HEALTHCARE/MED DEVICE

Ken Hoyme, Boston Scientific\*; Allison Miller, United Health Group\*; Robert Booker, UnitedHealth Group; Debra Bruemmer, Mayo Clinic; Todd Carpenter, Adventium Labs; Scott Erven, PWC; Judy Hatchett, Fairview Health Services Information Technology; Brian Isle, Adventium Labs and University of Minnesota Technological Institute; Eran Kahana, Maslon; Matthew Kirkwood, Smiths Medical; Daniel Lyons, Synopsys; Kevin McGrail, InfraShield; Vidya Murthy, Medcrypt; Matt Russo, Medtronic; Chris Tyberg, Abbott Leadership Institute, Adventium Labs; Technological Leadership Institute (TLI), University of Minnesota

## INTERNATIONAL DINNER

Harshal Mehta, Carlson Wagonlit Travel\*; Karen Andersen, Eide Bailey; Anne Bader, The International Cybersecurity Dialogue; Sean Costigan, ITL Security; Mark Ritchie, MN EXPO CEO; Frank Ross, General Mills; Natasha Shawver, University of Minnesota; Pekka Vepsalainen, Tikkasec Ltd.

## PROGRAM & SPEAKER REVIEW

Stefanie Horvath, MNARG, Enterprise Services MN IT; Jill Allison, Kudelski Security; Bob Bassett, CenturyLink; Tim Crothers, Target Corp.; Mary Frantz, Enterprise Knowledge Partners; Barb Fugate, United Bankers' Bank; Brian Isle, Adventium Labs; Mike Kearn, US Bank; David LaBelle, NorSec; Michael Larson, ECOLAB; Tina Meeker, Shutterfly; David Notch, Medtronic; Greg Ogdahl, MoneyGram; Melissa Seebeck, Delta Airlines; Catharine Trebnick, Dougherty; Kristi Yauch, TCF Bank;

## REGISTRATION AMBASSADORS

John Bonhage, InfraGard; Barb Fugate, United Bankers' Bank; Bob Hoschka, Computex; Emily Marier, Slumberland Furniture; Greg Ogdahl, MoneyGram; Melissa Seebeck, Delta Airlines; Wade Van Guilder, Symantec; Lee Ann Villella, FR Secure; Kristi Yauch, TCF Bank.

(\* indicates committee chair)

## ROUNDTABLE DISCUSSIONS

Steen Fjalstad\*\*, Midwest Reliability Organization; Massoud Amin, University of Minnesota; Sam Grosby, Wells Fargo; Brett Hebert, BRIGGS; Tim Herman, MBA Engineering; Brian Isle, Adventium Labs; Menno Kievot, AMPF; Andrew King, Dougherty & Company; Cyrus Malek, BRIGGS; Emily Marier, Slumberland; Phil Schenkenberg, Briggs; Jeremy Swenson, Ameriprise; Paul Veeneman, MBA Engineering; Ted Wallerstedt, US Bank; Shari Ziebell, Spire Credit Union

## SECURITY SOLUTIONS PODCASTS

Tina Meeker, Shutterfly, Inc. \*\*; Bob Hoschka, COMPUTEX; Jen Churchill, The Event Group;

Participants for interviews: Centrifly, Fidelis, Rasmussen, Synack, Tanium, Verodin, White Oak Security.

## SMALL BUSINESS

Cyrus Malek, Briggs & Morgan, P.A. \*\*; Eric Ebner, Protocol 46; Brett Herbert, Briggs & Morgan, P.A.; Twila Kennedy, U.S. Small Business Administration; Chuck Pellino, Wells Fargo; Deborah Salerna, SCORE; Lyle J. Wright, Minnesota Dept. of Employment & Economic Development.

## SPONSORSHIP COMMITTEE

Jen Churchill, The Event Group\*; Stephen Burk, The Event Group; Dave Notch, Medtronic. Harold Palmer, PreEmpt; Catharine Trebnick, Dougherty; Lee Ann Villella, FRSecure. Matthew Stellmacher, White Oak Security.

## VISIONARY LEADERSHIP AWARDS

Chris Buse, Office of the Legislative Auditor, State of Minnesota\*; Todd Carpenter, Adventium Labs; Jennifer Czaplewski, Target Corp.; Steen Fjalstad, Midwest Reliability Organization; Chrysa Freeman, Security Mindedness; Brian Isle, University of Minnesota Technical Leadership Institute & Adventium Labs; Eileen Manning, Cyber Security Summit.

## WOMEN IN CYBERSECURITY

Tina Meeker, Shutterfly\*; Jill Allison, Kudelski Security; Brenda Bjerke, Target; Sam Crosby, Wells Fargo; Jen Czaplewski, Target; Loren Dealy Mahler, Dealy Mahler Strategies; Chrysa Freeman, Code 42; Barb Fugate, United Bankers' Bank; Sam Grosby, Wells Fargo; Jadee Hanson, Code 42; Judy Hatchett, Fairview Health Services; Stefanie Horvath, MNARG, Enterprise Services MN IT; Eileen Manning, Event Group; Emily Marier, Slumberland Furniture; Allison Miller, Optum; Melissa Seebeck, Delta Airlines; Catharine Trebnick, Dougherty; Lee Ann Villella, FR Secure; Kathy Washenberger, Deluxe Corp.; Kristi Yauch, TCF Bank.

## Specialty Events



### VIP Reception

Monday, Oct. 28 @ 5:00 PM



**Ticketed Event**

### International Dinner

Monday, Oct. 28 @ 6:30 PM

sponsored by **CWV**



**All Students Welcome**

### Student Breakfast

Tuesday, Oct. 29 @ 7:00 AM

sponsored by **MINNESOTA IT SERVICES**



**All Welcome**

### Roundtable Luncheon

Tuesday, Oct. 29 @ 11:45 AM



**Invite Only**

### CISO Luncheon

Tuesday, Oct. 29 @ 11:45 AM

sponsored by **MICRO FOCUS**



**Ticketed Event**

### Visionary Leadership Award Dinner

Tuesday, Oct. 29 @ 6:00 PM



**All Welcome**

### FBI Breakfast

Wednesday, Oct. 30 @ 7:15 AM



**Invite Only**

### Legislative Briefing

Wednesday, Oct. 30 @ 12:00 PM

## ROOM 101 D



# Women in Cyber Security

**Monday, October 28 | 9:00 AM–1:00 PM**

The Line-Up: Get the inside story on how to launch and navigate a rewarding career in the male-dominated cyber security field. Women experts in the field will lead discussions on career navigation, strategies and challenges followed by a special networking luncheon.

## Agenda

**9:00–9:15 AM** Opening Remarks

*Tina Meeker, Shutterstock, Inc.; Steve Aleckson, TEKsystems*

**9:15–10:00 AM** The many (and sometimes hidden) paths to and within cyber

*Moderator: Elizabeth Stevens, InfraGard MN Alliance*

*Panelists: Betty Elliott, Mercer; Judy Hatchett, Fairview Health Services Information Technology; Melissa Seebeck, Delta Air Lines*

**10:00–10:45 AM** Career Goals for everyone! CISOs, Entrepreneurs and Everything in Between

*Moderator: Brigadier General Stefanie Horvath, Minnesota IT Services*

*Panelists: Sahar Ismail, Legacy Armour; Milinda Rambel Stone, Provation Medical*

**10:45–11:30 AM** Being a woman in Cyber isn't always a breeze. Hear from Cyber leaders as they share their stories and strategies

*Moderator: Tina Meeker, Shutterstock, Inc.*

*Panelists: Jill Allison, Kudelski Security, Inc.; Sarah Engstrom, CHS, Inc.; Christine Stevenson, Verodin*

## Women in Cyber Security Networking Lunch

**11:45 AM–1:00 PM**

State Senator Melissa Wicklund (DFL-Bloomington) will speak at this special networking event for women attending the Summit.

Sponsor



### Want a voice in this conversation?

You're invited to join the 2020 planning team. To help shape future Women in Cyber Security events, email [Denise.Wald@eventshows.com](mailto:Denise.Wald@eventshows.com).



# ZERO DAY EXPLOITS? RANSOMWARE? PHISHING ATTACKS?



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Risk



Increased  
Understanding



Increased  
Productivity



Decrease  
Costs

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## ROOM 101 D



# MedDevs + Health Delivery Orgs + Regulators Gather to Collaborate on Device Security and Safety

**Monday, October 28 | 1:00–5:30 PM**

Minnesota, and the Twin Cities in particular, are the focal point of Medical Device innovation in North America. As such, our state is home to a high concentration of device manufacturers, healthcare deliverers and regulators. In 2016 we added the first half-day Medical Device session in conjunction with Cyber Security Summit to gauge interest among these stakeholders about getting together annually in a non-regulatory setting to share concerns and collaborate on the issues of security and safety of medical devices. This gathering has achieved unqualified success and we're pleased to continue hosting this dynamic session.

## CyberBytes™

**Moderated by Ken Hoyme of Boston Scientific and Allison Miller of Optum.** Topics covered during this session:

Anatomy of a Medical Device Attack  
*Jay Radcliffe, Thermo Fisher Scientific*

Medical Device Attack Scenarios  
*Sarah Jopp, Mayo Clinic*

How to Make Your Organization Resilient to Attacks on Medical Devices  
*Damin Barnier and Richard Scott, Optum*

24h of a Medical Device Security Disaster  
*Adam Brand, PwC*

How to Use MDS2 Form to Drive Design Decisions  
*Anita Finnegan, Nova Leah*

Agentless Device Security for the Healthcare Industry  
*Jack Marsal, Armis*

How to Make Your Medical Device Secure  
*Mike Kijewski, MedCrypt*

Medical Device Security Logging: The Apache Software Foundation & Time Series Databases  
*Kevin McGrail, InfraShield*

Must-Have Security Contract Language  
*Eran Kahana, Maslon*

Host

**MASLON**

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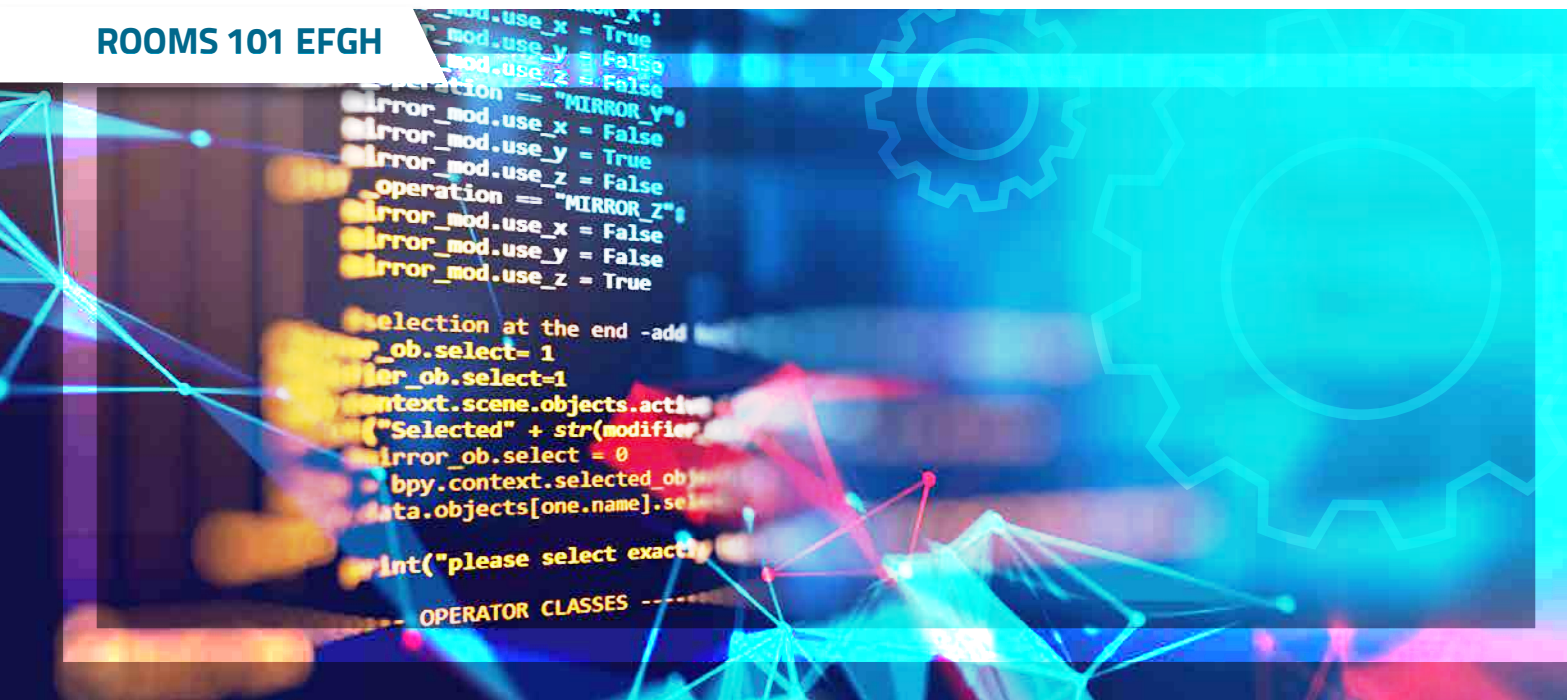
## AN OUNCE OF PREVENTION...

*Protecting your sensitive data in a world of increasing threat is no easy operation. Skilled legal counsel is critical to both diagnosing and reducing risk.*

*Maslon has extensive experience advising medical device and healthcare clients on effective data security practices and privacy law. We're dedicated to helping our clients avoid unnecessary complications.*



## ROOMS 101 EFGH



# Technical Tracks | Monday, October 28

## TECH TRACK ONE / 1:10–2:00 PM

### TECHNICAL TRACK 1-A / ROOM 101 E

#### Blocks and Chains: Realities of Digital Ledgers in Enterprise Security

This presentation will discuss the impact of Blockchain, or digital ledgers, on the enterprise. After the crypto currency crash, has blockchain failed to meet expectations? What should security be focused on.

*Michael Anton, Kudelski Security*

### TECHNICAL TRACK 1-B / ROOM 101 F

#### Protecting Customers from Themselves

The cyber threat landscape is expanding with trojan and fishing initiated ransomware and malware attackers. Attackers continuously leveraging new attack vectors and rendering our defenses ineffective. The 'Zero Trust' security model looks like a promising solution to mitigate some threats, but rolling it out will be challenging as various dependencies have to be satisfied. To protect ourselves from the ever evolving attack surface, we need to be aware of the current challenges as well as the defensive technologies and approaches that will help us counter threats effectively and efficiently.

*Yasir Liaquatullah, a10*

## TECH TRACK TWO / 2:10–3:00 PM

### TECHNICAL TRACK 2-A / ROOM 101 E

#### Developing Compliant Patterns for Modern Technologies

This session will articulate the method by which any IT Security organization, regardless of size, can develop compliant patterns for modern technologies. We will discuss overall strategy and walk through 3 real-world examples where teams worked this strategy, overcame various challenges, and delivered repeatable solutions.

*Stephen Podobinski, Target*

### TECHNICAL TRACK 1-C / ROOM 101 G

#### Tackling the Talent Shortage Problem: An Honest Look At Challenges Related To Finding and Retaining Information Security Talent

It's a fact, there aren't enough of us to go around. The unemployment rate is already at 0%, and the future looks bleak for people in need of information security talent. Luckily, the industry is filled with people and organizations willing and able to do something about it. In this session, Evan Francen, CEO and founder of FRSecure gives a look at what it takes to build a good security analyst from the ground up: the foundational skills necessary for someone to break into the security industry, how technical-focused employees and non-technical employees develop successfully within the security industry, and what roles and skills should a CISO have in all of this.

*Evan Francen, FRSecure*

### TECHNICAL TRACK 1-D / ROOM 101 H

#### Cyber Range for Technical Staff

Join others on a cybersecurity range as a blue team member to protect the range network and systems. This session will put you in the hot seat to learn new tactics and techniques as well as new technology that can make the whole process easier and more efficient. A read-ahead packet will be sent out in advance to help ensure you are orientated to the range prior to attending.

*Eric Ebner, Protocol 46*

### TECHNICAL TRACK 2-B / ROOM 101 F

#### Secure Midnight Developer (DevSecOps) Evolution of Application Security & OWASP SAMM

This presentation will include practical suggestions aimed at increasing ability to measure, manage, and improve Information Security Programs, while forming stronger relationships with product owners and developers. Presentation It will cover what everyone can expect out of OWASP SAMM 2.0 and what we can all do to help make SAMM 2.0 more helpful and relevant in the future.

*Yan Kravchenko, Concord USA*

**TECHNICAL TRACK 2-C / ROOM 101 G****Using Deception To Close Your Detection Gaps**

This session will address how deception technology creates a fabric across the entire enterprise to close detection gaps, provide internal visibility, help meet compliance requirements, and defend against in-network attackers.

*Joseph Salazar, Attivo Networks*

**TECHNICAL TRACK 2-D / ROOM 101 H****Cyber Range for Management**

Join others to take part in a cybersecurity response table-top exercise to protect and defend a network. This session does not require technical experience as it works the process in a team environment. As a member of the defense team, you will experience the processes and techniques that are used to protect a network and then see how new technology can make the whole process easier and more efficient.

*Eric Ebner, Protocol 46*

**TECH TRACK THREE / 3:10–4:00 PM****TECHNICAL TRACK 3-A / ROOM 101 E****Your Security Controls are Failing and You Don't Know It**

Most of us base our security on assumptions. We assume our security tools, people and processes are working, vendor default configurations are right for us, if something was working before it's still working now, and ongoing configuration changes are accurate. The sad truth is, we've been doing security wrong for so long that it feels right, but statistically, more is broken than working.

*Christine Stevenson, Verodin*

**TECHNICAL TRACK 3-B / ROOM 101 F****The Future SOC: How Machine Learning and Crowd-Powered Big Data is Transforming Security**

Data science applied to vendor-independent data, multi-device telemetry, and world-class threat intelligence is rapidly transforming the future of security operations. By pairing machine and human intelligence, organizations with limited resources can now detect and respond to unknown threats faster and with unprecedented accuracy. In an industry forever locked in an adversarial battle with increasingly sophisticated actors, this presentation will explore how to apply the right machine learning and deep learning techniques to the right data and threat intelligence to outpace and outmaneuver adversaries.

*Aaron Hackworth, Secureworks*

**TECHNICAL TRACK 3-C / ROOM 101 G****Understanding Third-Party Risk in the Cloud**

Abstract: No matter how strong your organization's security strategy is, your cloud data is likely most at risk via your third-party cloud applications. These apps are often much more susceptible to hackers than other parts of your security perimeter. Your organization is likely using hundreds of these third-party cloud apps, like Slack and Office 365, which means there are hundreds of opportunities for threats to find their way in. You may not even know that sensitive assets in the cloud are vulnerable through these apps either. This is where an understanding of third-party risk is imperative for every organization's security team. This session examines the best ways to mitigate third party risk.

*Damian Chung, Netskope*

**TECHNICAL TRACK 3-D / ROOM 101 H****Cyber Range for Technical Staff**

Join others on a cybersecurity range as a blue team member to protect the range network and systems. This session will put you in the hot seat to learn new tactics and techniques as well as new technology that can make the whole process easier and more efficient. A read-ahead packet will be sent out in advance to help ensure you are orientated to the range prior to attending.

*Eric Ebner, Protocol 46*

**TECH TRACK FOUR / 4:10–5:00 PM****TECHNICAL TRACK 4-A / ROOM 101 E****Zero Trust, CARTA, IoT, CJIS, CSF – OMG, How Can I Address All of These?**

You may have heard all of these as buzz words but why are they important and how can you address them with limited time and resources? This engaging session provides an overview to guide agencies protecting against modern cybersecurity threats. It shows how a modern information platform can enable Cyber Security Excellence without busting the budget or throwing out your current investment. Excellence means finding a way both efficiently and effectively to manage cyber risks. Asking the right questions focuses investments in the security controls that matter most and defending critical systems and sensitive information despite persistent threats, ongoing talent shortages, and ever-present budget constraints. This session shows how networks and security tools can be automated for security professionals so they can focus on enhancements to improve overall cyber posture --key topics for security today.

*Peter Romness, CISCO*

**TECHNICAL TRACK 4-B / ROOM 101 F****Incorporating Security Intelligence and Automation Into Digital Transformation**

This session will focus on the experiences Microsoft is seeing with organizations embarking on digital transformation journeys. We will discuss overall tactics and solutions organizations are able to incorporate to enable intelligence and automation of cyber security by taking advantage of cloud native solutions.

*Chris Raschke, Microsoft*

**TECHNICAL TRACK 4-C / ROOM 101 G****Dividing by Zero: Establishing Privileged Access Security for Null-Trusted Humans and Robots**

In this talk, we'll look at the evolution of the zero-trust security model and how the move to more automation and distribution has led to challenges related to powerful access for traditional and Cloud environments. Along with a migration to modern environments, there's an ever increasing number of very low trust entities like vendors and applications that are being given greater levels to access. In addition to a number of easily repeatable keyboard attack scenarios that take advantage of a perimeter-less state, we'll share tips to help reduce the attack surface, increase operational efficiencies around remote access, and supplement other zero trust controls by securing the privileged organic and inorganic secrets that allow access into modern environments.

*Brandon Traffanstedt, CyberArk*

**TECHNICAL TRACK 4-D / ROOM 101 H****Cyber Range for Management**

Join others to take part in a cybersecurity response table-top exercise to protect and defend a network. This session does not require technical experience as it works the process in a team environment. As a member of the defense team, you will experience the processes and techniques that are used to protect a network and then see how new technology can make the whole process easier and more efficient.

*Eric Ebner, Protocol 46*



*Securing  
Benjamin's Favorite  
Bedtime Story.  
Again.*

*Unisys Stealth® protects power companies around the world from cyberattacks. So Benjamin's mom can read him his favorite story one more time before bed. Find out more at [Unisys.com/Stealth](https://Unisys.com/Stealth).*



ROOM 102 A



# Cyber Security Plan Basics to Protect Small to Mid-Size Businesses

**Tuesday, October 29 | 1:00–6:00 PM**

Hackers target small to mid-size businesses as low-hanging fruit. Business owners need a plan to leverage practices to protect assets. Build the foundation for cyber security strategy to protect your company's Reputation, Financial Well-Being and Intellectual Property — in short, your livelihood. Learn how to protect yourself, your customers and your assets in a powerful afternoon with top Cyber Security thought leaders to give you knowledge for developing technical, legal and financial aspects of a cyber security plan for your business.

## Cyber Risk Awareness Training Agenda

**1:00-1:30 PM** Why a Cyber Security Strategy is critical to small and mid-size businesses and the impact it can have  
*Eileen Manning, Cyber Security Summit; Nancy Libersky, U.S. Small Business Administration*

**1:30-2:00 PM** No Longer 'Nice to Have' — Privacy and Security is the Law  
*Cyrus C. Malek and Brett Hebert, BRIGGS*

**2:00-2:40 PM** Small Business Big Threat — Why Hackers Love Businesses Like Yours  
*Eric Ebner, Protocol 46*

**2:45-3:15 PM** Resource Break in EXPO

**3:15-4:00 PM** Third Party Risk Management for Small Business  
*Chuck Pellino, Wells Fargo*

**4:00-4:30 PM** How the Government is Helping Small to Mid-Sized Businesses Build a Defense  
*Christopher Gabbard, Region V: Minnesota*

**4:30-4:50 PM** Q&A Panel  
*Moderator: Cyrus C. Malek, BRIGGS; Panelists: Brett Hebert, BRIGGS; Eric Ebner, Protocol 46; Chuck Pellino, Wells Fargo; Christopher Gabbard, Region V: Minnesota*

**4:50-5:00 PM** Session Takeaways  
*Cyrus C. Malek, Briggs and Morgan, Professional Association*

**5:00-6:00 PM** Reception in Resource Center

Sponsors



Co-marketers



U.S. Small Business Administration



# Monday, October 28

|                                     |                                                                                                                                                                            |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00 AM–1:00 PM                     | <b>Women in Cyber Security</b> — See page 8 for details                                                                                                                    |
| 11:45 AM–1:00 PM                    | <b>Women in Cyber Security Networking Lunch</b> — See page 8 for details                                                                                                   |
| 1:00–5:30 PM                        | <b>HealthCare &amp; Med Device</b> — See page 10 for details                                                                                                               |
| 1:10–5:00 PM                        | <b>Technical Tracks</b> — See page 12 for details                                                                                                                          |
| 5:00–6:15 PM<br>Seasons, 2nd Floor  | <b>VIP Reception</b> (Ticketed Event)                                                                                                                                      |
| 6:15–8:30 PM<br>Lounge A, 2nd Floor | <b>International Dinner</b> (Ticketed Event)<br><i>Harshal Mehta, CWT; Dr. Massoud Amin, UofMN; Kathy Orner, CWT; Sean Costigan, ITL Security; Mark Ritchie, Global MN</i> |

# Tuesday, October 29

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7:00 AM–8:00 AM<br>Ballroom B         | <b>EXPO Breakfast</b><br>Summit breakfast in EXPO area. And, while you're at it, scan business enhancements available to your company from the offerings of our leading show vendors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 7:00 AM–8:00 AM<br>Seasons, 2nd Floor | <b>Student Breakfast (Invitation Only)</b><br>Head of cyber security for the State of Minnesota presents timely advice and career-shaping insights for future cyber security professionals. Feed yourself, and your aspirations.<br>A great investment in your future! // <i>Aaron Verdell Call, MN.IT Services</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8:00 AM–8:45 AM<br>Ballroom           | <b>Welcome &amp; Opening Remarks</b><br>This year's theme is "Pushing the Cyber Security Envelope." The theme was selected to emphasize the importance of leading security versus just trying to stay current for both industry and government and the role each must play in securing our future.<br><i>Eileen Manning, Cyber Security Summit; Mike Johnson, TLI, University of Minnesota; Tim Crothers, Target; Catharine Trebnick, Dougherty &amp; Company LLC</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 8:45 AM–9:15 AM<br>Ballroom           | <b>Keynote: Pushing the Cyber Security Envelope</b><br>Information security has many components that rely not only on its success but the business. Each program designed to handle multiple risks and threats towards the organization and one that takes years for maturing. Most of our programs aren't designed to even handle the basic threats of attackers, let alone advanced adversaries. This talk will dive into the top five areas of importance within an information security program and what is critical in order to push the security envelope forward. In this presentation it'll be a mix of technical concepts as well as program building for a blended program that is designed to threat model risks towards your organization and build a solidified program. We can do this together, and focusing on critical elements around our program can make us successful against tomorrow's threats.<br><i>David Kennedy, TrustedSec</i> |
| 9:15 AM–9:45 AM<br>Ballroom           | <b>Discussion: Government Taking Action to Secure the Cyber Domain</b><br>This discussion will examine government taking action to promote alliance in cybersecurity. Government is taking action with public and private partnerships to improve information sharing and leverage resources against cybersecurity attacks in multiple critical infrastructure sectors. The discussion addresses explicit examples where Government is taking actions to bolster cybersecurity.<br><i>Steen Fjalstad, Midwest Reliability Organization; John Tuma, Minnesota Public Utilities Commission</i>                                                                                                                                                                                                                                                                                                                                                               |
| 9:45 AM–10:15 AM                      | <b>Own IT. Secure IT. Protect IT.</b><br>As we close out National Cybersecurity Awareness Month, the Director of the Cybersecurity and Infrastructure Security Agency will discuss how his agency is bringing together all levels of government, the private sector, international partners, and the public to strengthen resilience and security of our Nation's critical infrastructure.<br><i>Christopher Krebs, Cybersecurity and Infrastructure Security Agency (CISA)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 10:15 AM–10:45 AM<br>Ballroom B       | <b>EXPO Break</b><br>Enjoy a light snack and network to establish new professional relationships.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



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|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:45 AM–11:45 AM<br>102 A             | <b>Management Breakout: Forward Looking View of Cyber Risk</b><br>As organizations mature their security programs, identifying vulnerabilities is no longer sufficient. Understanding risk is critical to mature programs and vulnerabilities do not exist in a vacuum - context is key. Presenters discuss how to incorporate practical testing into your deep-dive pentesting process, resulting in more relevant and actionable results.<br><i>Kristi Yauch, TCF Bank; Christopher Emerson, White Oak Security</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 10:45 AM–11:45 AM<br>Ballroom          | <b>Tech Breakout: Weaponization of Social Media</b><br>Review of increase in cyberattacks, and level of sophistication, as social media manipulates human behavior to ignite harmful attacks on individuals and Enterprise network. Includes description of how social media apps are used to steal credentials, followed by demonstration of how apps take and use data. Also covers how to mitigate cyberattacks through user training and the development of specific policies on internet blocking and mobile device management.<br><i>Mary Frantz, Enterprise Knowledge Partners, LLC</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 11:45 AM–1:15 PM<br>Ballroom AB        | <b>Luncheon Roundtable Discussions &amp; EXPO</b><br>Roundtable discussions gather together by topics of interest. Sessions facilitated by Summit Co-Marketing Partners. Time to visit with Solution Providers in EXPO Hall.<br><i>Steen Fjalstad, Midwest Reliability Organization</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 11:45 AM–1:15 PM<br>Seasons, 2nd Floor | <b>CISO Lunch: Best Practices for Cyber-risk Reporting and Board Communications</b> (Invitation Only)<br>According to NACD research, 97% of public companies and 94% of private companies are increasing cybersecurity oversight this year. Our panel discussion will highlight perspectives from leading CISOs on strategies for effective Board communication and aligning security with the changing needs of the organization. CISOs from leading enterprises will share best practices in dialogue with Directors from public and private companies. Highlights include: <ul style="list-style-type: none"> <li>• Cyber business management implications of people, processes and technology investment.</li> <li>• Cybersecurity strategy visualization, communication and execution.</li> <li>• Cyber-risk reporting and establishing trust and credibility between Security leadership and the Board, and</li> <li>• Information sharing across and within industry sectors.</li> </ul> <i>Michael Gutsche, MicroFocus; Sherry Smith, Piper Jaffray, John Deere; John Hellickson, Kudelski Security; David J. Notch, Medtronic; Jerrod Montoya, OATI</i> |
| 1:00 PM–6:00 PM<br>102 A               | <b>Small Business Track</b><br>Everyone is a target for cybercrime, but not every business has a dedicated Chief Information Security Officer and team of security professionals to tackle the problem. That doesn't mean you are defenseless or that you can neglect to do your due diligence. You will come away with actionable information that you can use in your businesses to prevent attacks, mitigate losses, and recover after an incident. Target audience is small to mid-size business CEOs, HR Directors, IT staff and legal advisors. Session includes access to the latest solution strategy resources in the EXPO Hall<br><i>Eileen Manning, Cyber Security Summit; Nancy Libersky, U.S. Small Business Administration (SBA); Cyrus Malek, BRIGGS; Brett Hebert, BRIGGS; Eric Ebner, Protocol 46; Charles Pellino, Wells Fargo; Christopher Gabbard, CISA</i>                                                                                                                                                                                                                                                                                  |
| 1:15 PM–1:45 PM<br>Ballroom            | <b>CyberByte™: Network Security Strategy</b><br>Zero Trust Architecture defined and a time traveling overview of restricting trust using the network from 1990 to 2019. As an engineer and implementer, Sam will speak from experience about what worked, what didn't, and whether Zero Trust is a reasonable goal.<br><i>Sam Grosby, Wells Fargo</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1:45 PM–2:45 PM<br>Ballroom            | <b>Panel: Zero Trust as the New Network Security Strategy</b><br>Hype or new security enforcement model. Zero trust is a security-centered model with no network boundaries enforcing additional authentication on all network requests. Does zero trust truly build better anomaly detection and accelerated response to thwart attacks or is it a great concept but impractical to implement? This panel will deliberate on the usefulness or uselessness of Zero Trust, myths and implementation lessons.<br><i>Moderator: Mike Kearn, US Bank; Panelists: Sam Grosby, Wells Fargo; Chris Hawley, Unisys; Peter Romness, CISCO</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2:45 PM–3:15 PM<br>Ballroom B          | <b>EXPO Break</b><br>Join your peers for conversation and enjoy a light snack.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3:15 PM–3:45 PM<br>Ballroom            | <b>CyberByte: Reasonable Information Security Standards</b><br>What constitutes reasonable information security standards? It depends on who's asking, and you won't find a definitive answer in a rule or regulation. How will government regulators consider this question? What about Boards of Directors? The public? Who can you look to for advice and evaluation?<br><i>Carter Leuty, Target</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3:45 PM–4:45 PM<br>Ballroom            | <b>Panel: Reasonable Information Security Standards</b><br>Legal Requirements, Practical Considerations for Information Security Professionals and Objective Evaluation will be addressed by the Reasonable Information Security Standards panelists.<br><i>Moderator: Carter Leuty, Target; Panelists: Brad Maiorino, Thomson Reuters; Andrew Serwin, DLA Piper; Brian Levine, US Department of Justice; Sai Gadia, KPMG LLP</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



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| 4:45 PM–5:00 PM<br>Ballroom           | <b>Closing Takeaways</b><br><i>Tim Crothers, Target; Catharine Trebnick, Dougherty &amp; Company LLC</i>                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5:00 PM–6:00 PM<br>Ballroom B         | <b>Networking Reception in EXPO</b><br>Join us for cocktails and appetizers in the EXPO area where you network with fellow attendees our solution strategy partners.                                                                                                                                                                                                                                                                                                                                                         |
| 6:00 PM–8:00 PM<br>Seasons, 2nd Floor | <b>Visionary Leadership Awards Dinner</b> (Ticketed Event)<br>Gather with Cyber Security leaders to recognize the 2019 Visionary Leadership Award winners. The Summit has given awards to top leaders in industry, government and academia since 2015. Along with recognition for their accomplishments, award recipients will get a brief opportunity to share their innovative strategies with other visionaries at our annual gala event.<br><i>Kathy Orner, CWT; Christopher Buse, Office of the Legislative Auditor</i> |

## Wednesday, October 30

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|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7:15 AM–8:00 AM<br>Seasons, 2nd Floor | <b>Breakfast: Consider a Career with the FBI</b><br>Have you ever considered a career with the FBI? Join us for this special breakfast during the 2019 Cyber Security Summit. Representatives from the Bureau will be on hand to speak about the application process, IT, cyber and tech careers in the FBI. They will also take any questions people have.<br><i>Stephanie Cassioppi, FBI</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 7:15 AM–8:00 AM<br>Ballroom B         | <b>EXPO Breakfast</b><br>Summit breakfast in EXPO area. And, while you're at it, scan business enhancements available to your company from the offerings of our solution strategy partners.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 8:00 AM–8:30 AM<br>Ballroom           | <b>CyberByte®: AI Machine Learning</b><br>How do we sort through the hype and realize the benefits gained from machine learning? AI has potential for evolving antivirus defense and malware scanning but what are the realistic barriers and concerns to investing in AI-centric cybersecurity solutions?<br><i>Simon Crosby, SWIM A</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 8:30 AM–9:15 AM<br>Ballroom           | <b>Panel: Human vs. Machine</b><br>Panel's insightful discussion helps inform the attendee audience on the practical use (and affordability) of current AI/ML solutions. We know historically that investments into tools does not ensure security for network data. The Summit has spent nearly a decade creating a platform for people to hear from top security leaders in order to solve the increasingly complex problem of cyber security.<br><i>Moderator: Simon Crosby, SWIM A; Panelists: Josh Cutler, Optum; Eric Lengvenis, Wells Fargo; Dave Diehl, CrowdStrike</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 9:15 AM–10:00 AM<br>Ballroom          | <b>Authenticating Service-to-Service Communications in a Multi-Cloud World</b><br>Securing network traffic that traverses multiple software stacks and platforms is challenging. Difficulties involving platform-aware applications, supporting multiple authentication schemes, and maintaining complex authorization logic are all commonplace, despite the fact that we'd really rather avoid these things.<br><br>SPIFFE provides a platform-agnostic identity layer that can be used to authenticate and secure workload communication regardless of where the workload lives. AWS, Azure, and on-prem? Ok! Kubernetes, Mesos, and bare metal? No problem! SPIFFE allows you to mix and match without the need to worry about how workloads within them will securely communicate with each other.<br><br>In this talk, we will explain how to leverage SPIFFE (and SPIRE) to automatically issue SPIFFE identities across disparate orchestrators and platforms, allowing for seamless authentication of systems within and between<br><i>Sunil James, Scytale.io</i> |
| 10:00 AM–10:30 AM<br>Ballroom B       | <b>EXPO Break</b><br>Get the full benefit of the Summit. Enjoy a snack and network with your peers. New connections bring enhanced opportunities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 10:30 AM–11:15 AM<br>Ballroom         | <b>Building Innovation into Cyber Security</b><br>Cyber professionals can capitalize on breakthrough technology innovations to reduce cyber risk. This presentation offers strategies to cut through the marketing hype to seek out the right game-changing technologies for an organization - engaging with cyber start-ups, building valuable relationships with venture capital firms, innovation testing and Proofs of Concept, and realizing the control strength and risk reduction opportunities of innovations technologies.<br><i>Karl Mattson, City National Bank</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11:15 AM–12:00 PM<br>Ballroom          | <b>Capturing and Convicting The Bayrob Group: What You Need To Know About Working With Law Enforcement</b><br>The Bayrob Group was a group of Romanian hackers that developed their own malware which they used to create a botnet of more than 400,000 computers, and to steal millions of dollars and reams of PII. As a result of the Bayrob Group's sophisticated techniques to conceal their identity, it took law enforcement more than ten years to identify them and to obtain enough evidence to indict the group and extradite them from Romania. This past year, the leaders of the Bayrob Group were tried in the U.S. District Court for the Northern District of Ohio and convicted of all 21 counts of the indictment. Learn how the private sector provided invaluable assistance that led to the capture and conviction of the Bayrob Group and what you should know about how to effectively help the government fight cybercrime.<br><i>Brian Levine, US Department of Justice</i> |
| 12:00 PM–1:15 PM<br>Ballroom           | <b>Lunch &amp; EXPO</b><br>EXPO Drawing at 1:00 PM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 12:00 PM–1:30 PM<br>Seasons, 2nd Floor | <b>Legislative Briefing (Invitation Only)</b><br>Conversation with the Nation's Counterintelligence and Security Director. In this private closed door session, Director Evanina will provide a deep dive on the threat China poses to American businesses and other timely concerns. Session is invitation only, no substitutions.<br><i>William Evanina, National Counterintelligence and Security Center</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1:15 PM–2:00 PM<br>Ballroom            | <b>Cyber Risk Management Strategy</b><br>This presentation demonstrates the power of metrics in influencing leadership and organizational change around cyber risk. Session presenters will review in detail the data used to build the metrics and communication techniques to present a data infused presentation that accurately portrays the variables important to cyber risk management.<br><i>Jennifer Czaplewski, Target</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2:00 PM–2:40 PM<br>Ballroom            | <b>The China Threat and American Business</b><br>National Counterintelligence and Security<br><i>William Evanina, National Counterintelligence and Security Center</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 2:40 PM–3:00 PM<br>Ballroom            | <b>Break</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3:00 PM–3:40 PM<br>Ballroom            | <b>Panel: Too Many Tools, Technology Rationalization</b><br>From cyber alert fatigue to increasing regulation to expanding cyber attack landscape, the proliferation of tools knows no-bounds creating an ice cream head ache for too few cyber security professionals to learn and administer. How can info security professionals stay frosty for what is most important using the tools that best help pull out the important signal in a cacophony of cyber noise.<br><i>Moderator: Catharine Trebnick, Dougherty &amp; Company LLC; Panelists: Robert Booker, UnitedHealth Group; Chris Eng, Veracode; Eric Sorenson, VMware Carbon Black</i>                                                                                                                                                                                                                                                                                                                                                    |
| 3:40 PM–4:10 PM<br>Ballroom            | <b>CyberByte® Data Breach Investigation Report 2019</b><br>VDBIR has been a long-standing surveyor of past incidents that eloquently and often times sarcastically (thankfully) point to the way ahead. What is looming in the 2019 as a prequel to TC's closing on strategy to secure tomorrow.<br><i>Brigadier General Stefanie Horvath, MNARG; Minnesota IT Services</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 4:10 PM–4:40 PM<br>Ballroom            | <b>Closing Keynote: Strategy to Secure Tomorrow: The Future is Now</b><br>At this point the need for Cyber Security has become a cliché. In the last three days you've seen a mix of cutting-edge approaches and hard challenges in front of us. It's easy to become inured to the demands of defending our organizations and miss pivotal changes. Often, the pace of the work keeps us focused on very tactical approaches to cyber security. In this talk we'll discuss the role strategy plays in getting us out of the firefighting and approaches for moving into an intentional approach to cyber security rather than a reactive one.<br><i>Tim Crothers, Target</i>                                                                                                                                                                                                                                                                                                                          |
| 4:40 PM–5:00 PM<br>Ballroom            | <b>Wrap Up &amp; Practical Takeaways</b><br>Our distinguished Event Co-Chairs briefly revisit insights and action steps presented over the past three days by colleagues and collaborators, the accomplished thought leaders who have presented here at CSS19. These snippets will help remind you of ideas to enact and ideas to share with your peers. Stick around for this useful final session! Items you take back with you are icing on the cyber cake.<br><b>Drawing for VIP All-Access Cyber Security Summit admission for social media followers and bloggers</b> (details on page 5)<br><i>Tim Crothers, Target; Catharine Trebnick, Dougherty &amp; Company LLC</i>                                                                                                                                                                                                                                                                                                                       |

## SUMMIT CO-CHAIRS



**TIM CROTHERS**  
*VP Security Solutions, Target*

Tue Oct 29 - 8:45 AM  
Opening Remarks  
Tue Oct 29 - 4:45 PM  
Closing Takeaways  
Wed Oct 30 - 4:10 PM  
Closing Keynote  
Wed Oct 30 - 4:40 PM  
Wrap Up & Practical Takeaways

Tim is a seasoned security leader with over 20 years experience building and running information security programs, large and complex incident response and breach investigations, and threat and vulnerability assessments. He has deep experience in cyber-threat intelligence, reverse engineering, computer forensics, intrusion detection, breach prevention, and applying six sigma/lean process to information security. He is author/co-author of 15 books to date as well as regular training and speaking engagements at information security conferences.



**CATHARINE TREBNICK**  
*Vice President, Senior Research Analyst, Dougherty & Company LLC*

Tue Oct 29 - 8:45 AM  
Opening Remarks  
Tue Oct 29 - 4:45 PM  
Closing Takeaways  
Wed Oct 30 - 3:00 PM  
Panel: Too Many Tools, Technology Rationalization  
Wed Oct 30 - 4:40 PM  
Wrap Up & Practical Takeaways

Catharine Trebnick serves as VP, Sr. Research Analyst at Dougherty & Company. Trebnick's sector focus is Security, Cloud and Network Infrastructure and Unified Communications. Trebnick began her career on Wall Street at ThinkEquity. Her expertise stems from working for industry icons Time Warner Telecom, Level 3 Communications, Lucent Technologies, and AT&T. Fluent in emerging technologies, cloud and infrastructure networks and leverages C-level relationships plus technical knowledge gained over 15 years in senior level product management positions to gain rare insight in order to influence stock prices and provide real-time, accurate intelligence to investors. Trebnick earned a B.S. in Chemistry and minor in Chemical Engineering from Univ. of Maryland. She also earned an M.B.A. from the Univ. of Chicago. Trebnick is a frequent guest on CNBC and received acclaim for her research through published papers and quotes published in Barron's, Wall Street Journal, Reuters, Bloomberg, TheStreet.com, Forbes, Investor's Business Daily and CNNMoney.



**STEVE ALECKSON**  
*Executive Director, TEKsystems Risk & Security*

Mon Oct 28 - 9:00 AM  
Opening Remarks and Women in Cyber Security Panel



**JILL ALLISON**  
*Advisory CISO, Kudelski Security, Inc.*

Mon Oct 28 - 10:45 AM  
Women in Cyber Security Panel



**MASSOUD AMIN**  
*Professor of Electrical and Computer Engineering, University of Minnesota*

Mon Oct 28 - 6:30 PM  
International Dinner



**MICHAEL ANTON**  
*Senior Product Manager, Kudelski Security, Inc.*

Mon Oct 28 - 1:10 PM  
Technical Track 1-A



**DAMIN BARNIER**  
*Senior Security Engineer, UnitedHealth Group*

Mon Oct 28 - 2:00 PM  
HealthCare & Med Device



**ROBERT BOOKER**  
*Senior Vice President & Chief Information Security Officer, UnitedHealth Group*

Wed Oct 30 - 3:00 PM  
Panel: Too Many Tools, Technology Rationalization



**ANDREW BORENE**  
*Honorary Chairman Emeritus; Senior Director, Federal - National Security Group, Symantec*

Tue Oct 29 - 9:45 AM - Intro  
Wed Oct 30 - 2:00 PM - Intro

## Learn More About Our Speakers

For full biographies and other relative information, visit:

[cybersecuritysummit.org/speakers](http://cybersecuritysummit.org/speakers)



**ADAM BRAND**

*Managing Director -  
Cybersecurity & Privacy, PwC*

Mon Oct 28 - 2:30 PM  
HealthCare & Med Device

**JENNIFER CZAPLEWSKI**

*Director, Product Security,  
Target*

Wed Oct 30 - 1:15 PM  
Cyber Risk Management  
Strategy

**WILLIAM EVANINA**

*Director, National  
Counterintelligence and  
Security Center*

Wed Oct 30 - 12:00 PM  
Legislative Briefing  
Wed Oct 30 - 2:00 PM  
The China Threat and  
American Business

**CHRISTOPHER BUSE**

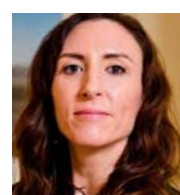
*Deputy Legislative Auditor,  
Office of the Legislative  
Auditor*

Tue Oct 29 - 6:00 PM  
Visionary Leadership  
Awards Dinner

**DAVE DIEHL**

*Tool Using Mammal,  
CrowdStrike*

Wed Oct 30 - 8:30 A  
Panel: Human vs. Machine

**ANITA FINNEGAN**

*Founder & CEO, Nova Leah*

Mon Oct 28 - 3:00 PM  
HealthCare & Med Device

**STEPHANIE CASSIOPPI**

*Supervisory Special Agent,  
FBI*

Wed Oct 30 - 7:15 AM  
FBI Breakfast

**ERIC EBNER**

*Chief Technology Officer,  
Protocol 46*

Mon Oct 28 - 1:10 PM  
Tech Tracks 1-D, 2-D, 3D, 4D  
2:10-5:00 PM  
Tue Oct 29 - 2:00 PM  
Small Business Track

**STEEN FJALSTAD**

*Security and Mitigation  
Principal, Midwest Reliability  
Organization*

Tue Oct 29 - 9:15 AM  
Panel: Government Taking Action  
to Secure the Cyber Domain  
Tue Oct 29 - 11:45 AM  
Luncheon Roundtable Discussions

**DAMIAN CHUNG**

*Business Information  
Security Officer, Netskope*

Mon Oct 28 - 3:10 PM  
Technical Track 3-C

**BETTY ELLIOTT**

*Partner & Chief Information  
Security Officer, Mercer*

Mon Oct 28 - 9:00 AM  
Opening Remarks and  
Women in Cyber Security  
Panel

**EVAN FRANCEN**

*CEO & Founder, FRSecure*

Mon Oct 28 - 1:10 PM  
Technical Track 1-C

**SEAN COSTIGAN**

*Professor, George C. Marshall  
European Center for Security  
Studies*

Mon Oct 28 - 6:30 PM  
International Dinner

**CHRISTOPHER EMERSON**

*CCSK, CISSP, CISA, GSEC,  
GWAPT, OSCP, SSCP, White  
Oak Security, Inc.*

Tue Oct 29 - 10:45 AM  
Management Breakout:  
Forward Looking View of  
Cyber Risk

**MARY FRANTZ**

*Founder & Managing Partner,  
Enterprise Knowledge  
Partners, LLC*

Tue Oct 29 - 10:45 AM  
Tech Breakout: Weaponization  
of Social Media

**SIMON CROSBY**

*CTO, SWIM AI*

Wed Oct 30 - 8:00 AM  
CyberByte®: AI Machine  
Learning  
Wed Oct 30 - 8:30 A  
Panel: Human vs. Machine

**CHRIS ENG**

*Executive Vice President of  
Research, Veracode*

Wed Oct 30 - 3:00 PM  
Panel: Too Many Tools,  
Technology Rationalization

**CHRISTOPHER GABBARD**

*Cybersecurity Advisor,  
Region V: Minnesota, CISA*

Tue Oct 29 - 1:00 PM  
Small Business Track

**JOSH CUTLER**

*Distinguished Engineer & Sr.  
Director Engineering, Optum*

Wed Oct 30 - 8:30 A  
Panel: Human vs. Machine

**SARAH ENGSTROM**

*CISO & VP of IT Security,  
Productivity and Privacy,  
CHS, Inc.*

Mon Oct 28 - 10:45 AM  
Women in Cyber Security  
Panel

**SAI GADIA**

*Partner, KPMG LLP*

Tue Oct 29 - 3:45 PM  
Panel: Reasonable  
Information Security  
Standards

**SAM GROSBY**

*Principal Enterprise Information Security Engineer, Wells Fargo*

Tue Oct 29 - 1:15 P  
CyberByte™: Network Security Strategy  
Tue Oct 29 - 1:45 PM  
Panel: Zero Trust as the New Network Security Strategy

**MICHAEL GUTCHE**

*Chief Security Strategist, Enterprise Security Product Group, MicroFocus*

Tue Oct 29 - 11:45 AM  
CISO Lunch

**AARON HACKWORTH**

*Senior Executive and Engineering Fellow, Counter Threat Unit Research Group, Office of the CTO - Secureworks, Secureworks*

Mon Oct 28 - 3:10 PM  
Technical Track 3-B

**JUDY HATCHETT**

*VP, Information Security & CISO, Fairview Health Services Information Technology*

Mon Oct 28 - 9:00 AM  
Opening Remarks and Women in Cyber Security Panel

**CHRIS HAWLEY**

*Director of Security Controls and Automation, Unisys*

Tue Oct 29 - 1:45 PM  
Panel: Zero Trust as the New Network Security Strategy

**BRETT HEBERT**

*Attorney, Briggs and Morgan, P.A.*

Tue Oct 29 - 1:30 PM  
Small Business Track

**JOHN HELLEICKSON**

*Vice President of US Advisory Services, Kudelski Security*

Tue Oct 29 - 11:45 AM  
CISO Lunch

**BRIGADIER GENERAL****STEFANIE HORVATH**

*Director of Joint Staff, JFHQ-MN; Executive Director Enterprise Services, MNARG; Minnesota IT Services*

Mon Oct 28 - 10:00 AM  
Women in Cyber Security  
Wed Oct 30 - 3:40 PM  
CyberByte® Data Breach Investigation Report 2019

**KEN HOYME**

*Director, Product and Engineering Systems Security, Boston Scientific*

Mon Oct 28 - 1:00 PM  
HealthCare & Med Device

**SAHAR ISMAIL**

*CEO, Legacy Armour*

Mon Oct 28 - 10:00 AM  
Women in Cyber Security Panel

**SUNIL JAMES**

*CEO, Scytale.io*

Wed Oct 30 - 9:15 AM  
Authenticating Service-to-Service Communications in a Multi-Cloud World

**MIKE JOHNSON**

*Senior Fellow & Honeywell James J. Renier Chair, Security Technologies Program, TLI, University of Minnesota*

Tue Oct 29 - 8:45 AM  
Welcome & Opening Remarks

**SARAH JOPP**

*CISSP | Sr. Information Security Analyst, Office of Information Security, Mayo Clinic*

Mon Oct 28 - 1:30 PM  
HealthCare & Med Device

**ERAN KAHANA**

*Attorney, Maslon*

Mon Oct 28 - 5:00 PM  
HealthCare & Med Device

**MIKE KEARN**

*Vice President, Managing Business Information Security Officer, Security Risk & Technology Consulting, US Bank*

Tue Oct 29 - 1:45 PM  
Panel: Zero Trust as the New Network Security Strategy

**DAVID KENNEDY**

*Founder, Senior Principal Security Consultant, TrustedSec*

Tue Oct 29 - 8:00 AM  
Keynote: Pushing the Cyber Security Envelope

**MIKE KIJEWSKI**

*CEO, Medcrypt*

Mon Oct 28 - 4:00 PM  
HealthCare & Med Device

**YAN KRAVCHENKO**

*Information Security Architect, Concord USA*

Mon Oct 28 - 2:10 PM  
Technical Track 2-B

**CHRISTOPHER KREBS**

*Director, Cybersecurity and Infrastructure Security Agency (CISA)*

Tue Oct 29 - 9:45 AM  
Own IT. Secure IT. Protect IT

**ERIC LENGVENIS**

*Operational Risk Consultant, PWSI - AI Controls Team, Wells Fargo*

Wed Oct 30 - 8:30 AM  
Panel: Human vs. Machine

**CARTER LEUTY**

*Vice President, Law, Target*

Tue Oct 29 - 3:15 PM  
CyberByte: Reasonable Information Security Standards  
Tue Oct 29 - 3:45 PM  
Panel: Reasonable Information Security Standards



**BRIAN LEVINE**

Senior Counsel, US  
Department of Justice

Tue Oct 29 - 3:45 PM  
Panel: Reasonable Information  
Security Standards  
Wed Oct 30 - 11:15 AM  
Capturing and Convicting The  
Bayrob Group: What You Need  
To Know About Working With  
Law Enforcement

**YASIR LIAQATULLAH**

Vice President of Product  
Management, a10

Mon Oct 28 - 1:10 PM  
Technical Track 1-B

**NANCY LIBERSKY**

Minnesota District Director,  
U.S. Small Business  
Administration (SBA)

Tue Oct 29 - 1:00 PM  
Small Business Track

**BRAD MAIORINO**

CISO, Thomson Reuters

Tue Oct 29 - 3:45 PM  
Panel: Reasonable  
Information Security  
Standards

**CYRUS MALEK**

Attorney, Briggs and  
Morgan, P.A.

Tue Oct 29 - 1:30 PM  
Small Business Track

**EILEEN MANNING**

Executive Producer and  
Co-Creator, Cyber Security  
Summit, Cyber Security  
Summit; The Event Group  
Incorporated

Tue Oct 29 - 8:45 AM  
Welcome & Opening Remarks  
Tue Oct 29 - 1:00 PM  
Small Business Track

**JACK MARSAL**

Senior Director of Product  
Marketing, Arms

Mon Oct 28 - 3:30 PM  
HealthCare & Med Device

**KARL MATTSON**

CISO, City National Bank

Wed Oct 30 - 10:30 AM  
Building Innovation into  
Cyber Security

**KEVIN A. MCGRAIL**

Director, Business Growth,  
InfraShield

Mon Oct 28 - 1:00 PM  
HealthCare & Med Device

**TINA MEEKER**

Director of Information  
Security GRC, Shutterstock, Inc.

Mon Oct 28 - 10:45 AM  
Women in Cyber  
Security Panel

**HARSHAL MEHTA**

VP, CISO, CWT

Mon Oct 28 - 6:30 PM  
International Dinner

**ALLISON MILLER**

Vice President, Global  
Enterprise Information Risk  
Management, Optum

Mon Oct 28 - 1:00 PM  
HealthCare & Med Device

**JERROD MONTOKA**

Deputy CISO, OATI

Tue Oct 29 - 11:45 AM  
CISO Lunch

**DAVID J. NOTCH**

Strategic Advisor, Enterprise  
Security & Cloud Architecture,  
Medtronic

Tue Oct 29 - 11:45 AM  
CISO Lunch



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**Attivo**  
NETWORKS.  
BOOTH #211



BOOTH #300





**KATHY ORNER**  
*VP & Chief Risk Officer  
(CISO M & G), CWT*

Mon Oct 28 - 6:30 PM  
International Dinner  
Tue Oct 29 - 6:00 PM  
Visionary Leadership  
Awards Dinner



**CHARLES PELLINO**  
*Managing Security Architect,  
Wells Fargo*

Tue Oct 29 - 3:15 PM  
Small Business Track



**PETER ROMNESS**  
*Cybersecurity Solutions Lead,  
US Public Sector, CTO Office,  
CISCO*

Mon Oct 28 - 4:10 PM  
Technical Track 4-A  
Tue Oct 29 - 1:45 PM  
Panel: Zero Trust as the New  
Network Security Strategy



**JOSEPH SALAZAR**  
*Attivo Networks*

Mon Oct 28 - 2:10 PM  
Technical Track 2-C



**ELIZABETH STEVENS**  
*Past President/Executive  
Board Member, InfraGard MN  
Alliance*

Mon Oct 28 - 9:00 AM  
Opening Remarks and Women  
in Cyber Security Panel:



**CHRISTINE STEVENSON**  
*Sales Engineer, Verodin*

Mon Oct 28 - 10:45 AM  
Women in Cyber Security Panel  
Mon Oct 28 - 3:10 PM  
Technical Track 3-A



**STEPHEN PODOBINSKI**  
*Lead Information Security  
Analyst, Target*

Mon Oct 28 - 2:10 PM  
Technical Track 2-A



**RICHARD SCOTT**  
*UnitedHealth Group*

Mon Oct 28 - 2:00 PM  
HealthCare & Med Device



**BRANDON TRAFFANSTEDT**  
*Global Director, Solutions  
Engineering at CyberArk,  
CyberArk*

Mon Oct 28 - 4:10 PM  
Technical Track 4-C



**JAY RADCLIFFE**  
*Director of Product Security  
Testing & Research, Thermo  
Fisher Scientific*

Mon Oct 28 - 1:00 PM  
HealthCare & Med Device



**MELISSA SEEBECK**  
*General Manager, Information  
Security Risk, Delta Air Lines*

Mon Oct 28 - 9:00 AM  
Opening Remarks and Women  
in Cyber Security Panel



**JOHN TUMA**  
*Commissioner, Minnesota  
Public Utilities Commission*

Tue Oct 29 - 9:15 AM  
Discussion: Government  
Taking Action to Secure the  
Cyber Domain



**MILINDA RAMBEL STONE**  
*Vice President & CISO,  
Provation Medical*

Mon Oct 28 - 10:00 AM  
Women in Cyber Security Panel



**ANDREW SERWIN**  
*Partner, Co-Chair, Global  
Cybersecurity Practice,  
DLA Piper*

Tue Oct 29 - 3:45 PM  
Panel: Reasonable Information  
Security Standards



**AARON VERDELL CALL**  
*CISO, Information Security  
for the State of Minnesota,  
MN.IT Services*

Tue Oct 29 - 7:00 AM  
Student Breakfast



**CHRIS RASCHKE**  
*Advanced Security  
Architecture - Global Black  
Belt, Microsoft*

Mon Oct 28 - 4:10 PM  
Technical Track 4-B



**SHERRY SMITH**  
*Director, Piper Jaffray,  
John Deere*

Tue Oct 29 - 11:45 AM  
CISO Lunch



**SENATOR MELISSA  
WIKLUND**  
*State Senator, State of  
Minnesota*

Mon Oct 28 - 11:45 AM  
Women in Cyber Security  
Networking Lunch



**MARK RITCHIE**  
*CEO, Global MN*

Mon Oct 28 - 6:30 PM  
International Dinner



**ERIC SORENSON**  
*Regional Account Manager  
at VMware Carbon Black, Inc.,  
VMware Carbon Black, Inc.*

Wed Oct 30 - 3:00 pm  
Panel: Too Many Tools,  
Technology Rationalization



**KRISTI YAUCH**  
*Cyber Security Director, T  
CF Bank*

Tue Oct 29 - 10:45 AM  
Management Breakout:  
Forward Looking View of  
Cyber Risk



## ARE YOU DRIVEN TO FIGHT CYBER CRIME?

### Graduate Minor in Cyber Security

Every industry needs cybersecurity professionals, and the demand for them is greater than ever. Gain the skills from industry-leading faculty to protect the information and systems we rely on with a **graduate minor in cyber security from the Technological Leadership Institute (TLI)** at the University of Minnesota. Courses are open to both U of MN students and non-degree seeking professionals.

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Cyber threats are escalating. Aging apps and processes (along with new ones) are full of unforeseen risks. Privacy and compliance requirements are mounting. And point solutions don't offer the scope, vision, or cross-silo analytics needed for these company-wide challenges. With our solutions, you can take a holistic, analytics-driven approach to securing what matters most—identities, applications, and data.

# 2019 Visionary Leadership Awards

## The Morries

The winners will be recognized at the Visionary Leaders Awards Dinner, hosted on the evening of October 29th. Along with recognition for their accomplishments, award recipients will get a brief opportunity to share their innovative strategies with their peers and attendees of the Summit.

### 2019 Honorees



Academic Leader

**CHRISTOPHE VELTSOS**

*Professor, Minnesota State University Mankato*



Applications Security Leader

**MIKE KIJEWSKI**

*CEO, MedCrypt*



Global Security Leader

**ANDREW BORENE**

*Senior Director, Symantec National Security Group; Director Homeland Security Program at George Mason University Law School*



Governance Champion

**SUZANNE SPAULDING**

*Senior Adviser, Homeland Security, International Security Program, CSIS*

Many traditions stem from a story. The Visionary Leadership Awards we will confer tonight are called The Morries. They're named for Robert Tappan Morris, progenitor of the first known national cyber hacking event on Nov. 2, 1988, one year before the formation of the World Wide Web. Morris was a gifted college student programmer. He unwittingly unleashed a self-propagating worm into the national system. His worm slowed university and military computers to a crawl. Morris claimed that his worm had been conceived as an experiment that accidentally created havoc. Though he could have been imprisoned under then-current law, he was fined and sentenced to perform public service. As the first cyber hacker, Morris gives us a fitting source for the name of our awards.





Information Technology Audit Leader  
**MARY FRANTZ**  
*CEO, Enterprise Knowledge Partners, LLC (EKP)*



Security Awareness Program Leader  
**JERROD MONTOYA**  
*Deputy Chief Information Security Officer,  
 Open Access Technology International (OATI);  
 President, InfraGard Minnesota Chapter*



Security Operations Leader  
**JOHN ISRAEL**  
*Security Operations Manager – Security  
 Operations Center (SOC), Incident Response,  
 and Forensics, State of Minnesota*



Security Program and  
 Oversight Leader  
**JODIE KAUTT**  
*President, Cyber Security, Target Corp.*



Founders Award: National  
 Cyber Defense Leadership  
**CENTER FOR INTERNET  
 SECURITY, INC. (CIS®)**



#### THANKS TO OUR CORPORATE TABLE SPONSORS



Special thanks to our Visionary Leadership Awards committee judges:

Chris Buse, Office of the Legislative Auditor, State of Minnesota; Todd Carpenter, Adventium Labs; Jennifer Czaplewski, Target Corp.; Steen Fjalstad, Midwest Reliability Organization; Chrysa Freeman, Security Mindedness; Brian Isle, University of Minnesota Technical Leadership Institute & Adventium Labs; Eileen Manning, Cyber Security Summit.

# ***Building and retaining your security team***



Mike Johnson serves as the director of graduate studies for the Master of Science in Security Technologies degree program at the Technological Leadership Institute at the University of Minnesota. In his role, he oversees, develops and teaches graduate level courses in security technologies innovation, management and leadership. He also delivers custom short courses and professional development programs for businesses. He has 25 years of risk management experience in security and financial services, serving as CISO and Operations Risk Director at Bremer Bank.

If you are a cybersecurity leader/hiring manager, you are probably getting tired of being reminded that there aren't enough skilled cybersecurity staff to fill your open positions. We know already, can we stop complaining about it? Yes, there are currently 500K open cyber positions in the US and nearly 3 million open positions globally, (1) and the need is definitely not expected to shrink in the coming years. So maybe it's time to think outside of the box when it comes to staffing our teams.

The Cybersecurity Unicorn may exist but we can't find them, and even if we did we can't afford them. How are we supposed to keep our SOC or our security engineering teams fully functional if we don't have anyone that can do the job? We consider our options. While it is always prudent to recruit new talent from recent college graduates at reputable IT and security education programs, and there always seems to be the regular musical chairs of security staff that shift from organization to organization, I don't think that's the only answer. As security leaders, what are we doing to help ourselves?

Most organizations already know that it's cheaper to keep staff than replace them. Once an employee becomes familiar with an organization's activities and operations they are more effective even with just the skills they already have. So rather than investing in a few of the most expensive security resources on the market, maybe we should invest even more in those employees we already have. And I'm not just talking about the current members of the security team, we need to expand these options to all of our employees (think other IT staff and business lines), and even consider hiring new employees that have strong IT aptitude but maybe not the lofty required level of experience we typically list in our entry-level security analyst job postings. Training the needed technology skills after a promising but inexperienced employee joins the organization (from another department or outside the organization) may

seem counter-intuitive but can result in more effective results, including fully staffed teams. It also shows staff that there are opportunities beyond the role they are entering at the moment, which is another boost to staff retention.

Mature security programs have been including training opportunities in their weekly activities for some time now, and that is why they continue to have effective programs, reduced turnover and strong staff knowledge and expertise. Training at these organizations isn't just the standard "Learning Management System" videos or outside classes (although they both have a place), but include active learning through internal exercises like capture the flag or red team/blue team competitions, time during the week for reading and self-directed learning, and job shadowing/skills transfer activities.

Providing training opportunities to your teams on an ongoing basis can improve both their skills and retention numbers. It also establishes a more robust security culture, as all employees can see by your actions that security is important to the organization. And even if some of the staff are already highly skilled, the world is changing fast. The continuous influx of new business technologies, new security regulations and requirements, new security tools and technologies, and new threats and vulnerabilities requires that your teams update and refresh skills and knowledge constantly. And don't forget about non-tech skills like effective communication and business acumen, both of which can improve the success of business impacting implementations and processes.

"The only thing worse than training employees and losing them is to not train them and keep them." – Zig Ziglar

While improving the skill level of your existing employees may take time, effort, and money, and some will use their new skills to find jobs elsewhere, it will also give you the resources to continue to have an effective security program and may be the only way you can keep all those seats filled.

1 2018 (ISC)<sup>2</sup> Cybersecurity Workforce Study

# Upcoming Industry Events



## InfraGard | Chapter Meeting

[Cargill @1:00 PM](#)

Covering IT Infrastructure, BC/DR, IT Security, Data Storage, and Enterprise Communications, you'll find presentations, panel discussions, and exhibits offering a variety of topics, as well as the latest innovations and best practices.



## MHTA | 2019 Tekne Awards

[Minneapolis Convention Center @5:00 PM](#)

Recognizing Minnesota's best and brightest innovations leaders in science and technology.



## ISACA MN | Effective Use Cases For Siem, Ueba, And Automation

[Target Northern Campus @3:30 PM](#)

Good, Bad, and Ugly of SIEM, UEBA, and SOAR. Use cases and justification. David Swift is a security practitioner, presenter and published researcher with over 25 years of experience having worked with Apple, Microsoft, Chevron, Visa, Costco, and many others to improve SIEM, SOC and UEBA practices.



## MNISSA | Chapter Meeting

[St. Mary's University Center @1:00 PM](#)

Join us for our informative presentations and great networking. Open to members and non-members. Agenda includes social networking, program and Happy Hour. Speaker: Tony James, Director of Payment Security, Target Corp. CISSP, CISA and CRSC. Presentation will cover the benefits of having PCI ISA(s) on the team.



## US Naval Academy Alumni | 4th Annual Heartland Leadership Forum

[McNamara Alumni Center](#)

Keynote speaker is Admiral Mike Rogers, former NSA Director and Commander of Cyber Command.



## A PERSONAL NOTE OF THANKS

The Cyber Security Summit could not happen without the support and vision of the over 40 members that make up the Think Tank, along with dozens of people who work on committees, plus the nearly 100 speakers and panelists that give of their time to share their experience to alert you to what is coming at us. These individuals are highlighted within the guide.

Literally, thousands of hours go into producing this Summit. Each year amazing leaders step up and take on the role of guiding our vision. This year, Tim Crothers and Catharine Trebnick Co-Chaired with the help of 2018 Co-Chairs General Stef Horvath and David Notch. So many other amazing people chaired committees, such as Ken Hoyme, Allison Miller, Tina Meeker, Harshal Mehta, Steen Fjalstad, Cyrus Malek, Jill Allison, and Chris Buse. And others worked in the background on special projects such as Matthew Harmon and David LaBelle.

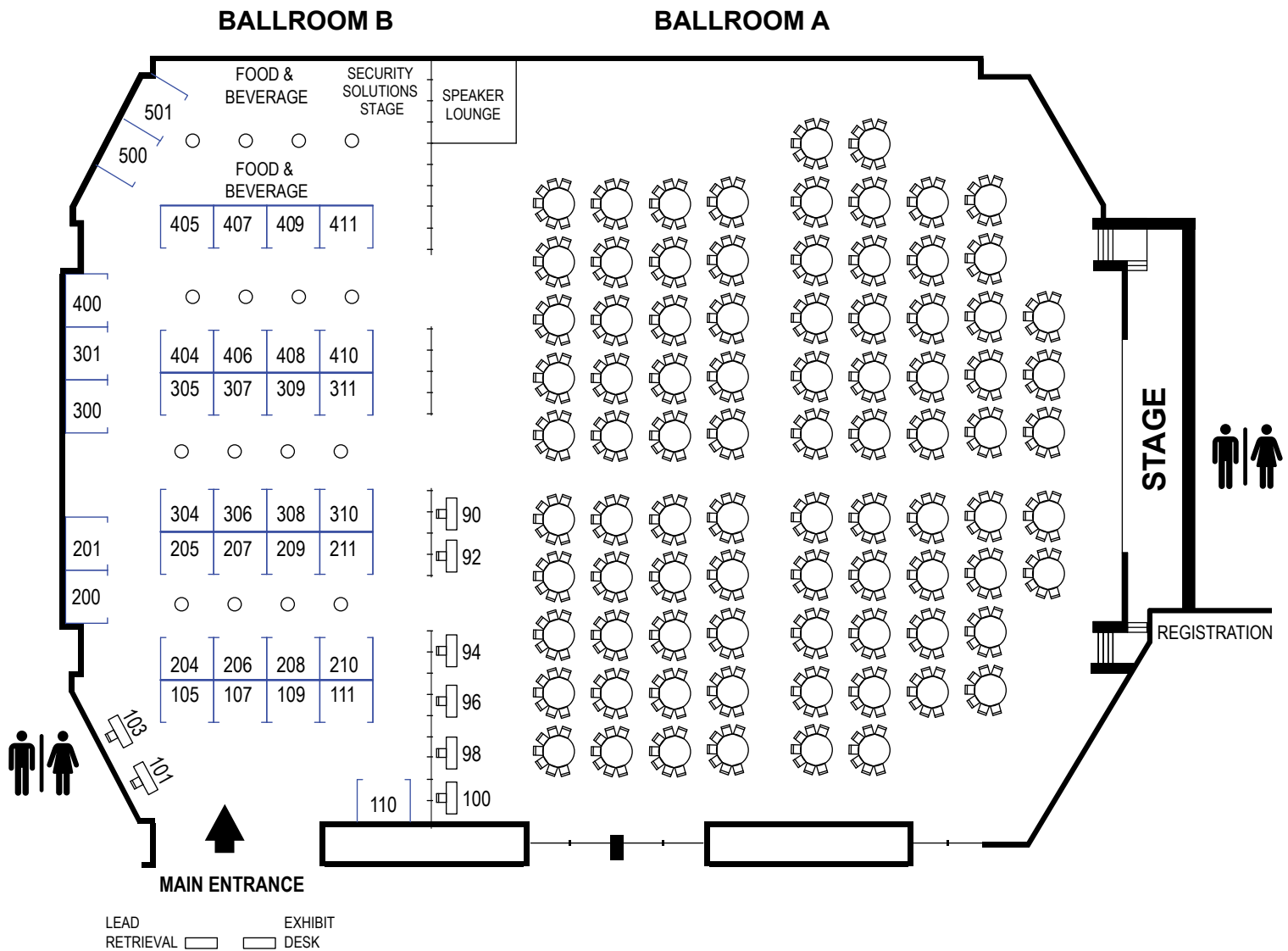
Thank you, friends, for building this Summit. For all the meetings, phone calls and emails. Your support is helping to showcase the amazing talent here in Minnesota, and more importantly, globally Pushing the Cyber Security Envelope

*Eileen Manning*

Eileen Manning, Executive Producer,  
Cyber Security Summit

If you'd like to join the collaboration and participate in a committee, please contact [Eileen.Manning@eventshows.com](mailto:Eileen.Manning@eventshows.com).





## Exhibitor Directory

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| <b>408</b> | Armis                | <b>407</b> | Fidelis                       | <b>409</b> | Netskope          | <b>109</b> | TEKsystems                               |
| <b>500</b> | Atomic Data          | <b>308</b> | FRSecure                      | <b>204</b> | ProcessBolt       | <b>400</b> | Tiffin University                        |
| <b>211</b> | Attivo               | <b>90</b>  | InfraGard                     | <b>306</b> | Proofpoint        | <b>501</b> | TrustedSec                               |
| <b>107</b> | Backbone Consultants | <b>92</b>  | ISACA Minnesota               | <b>110</b> | Protocol46        | <b>103</b> | USNA                                     |
| <b>100</b> | BCPA                 | <b>98</b>  | (ISC)2 Twin Cities            | <b>111</b> | Rapid7            | <b>206</b> | Vectra                                   |
| <b>404</b> | Centrify             | <b>96</b>  | ISSA MN Chapter               | <b>210</b> | Rasmussen College | <b>310</b> | Veracode                                 |
| <b>311</b> | Cisco                | <b>411</b> | Kudelski Security             | <b>405</b> | Secureworks       | <b>309</b> | Verodin                                  |
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| <b>305</b> | CyberArk             | <b>201</b> | Microsoft                     | <b>101</b> | Target            |            |                                          |



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Attivo Networks® provides accurate detection, analysis, and automated response to in-network threats. The ThreatDefend™ platform efficiently detects advanced, stolen credential, insider, and ransomware attacks within user networks, data centers, cloud, branch, and specialty environments by deceiving attackers into revealing themselves. ThreatOps™ playbooks and 3rd party integrations provide accelerated incident response.

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## Backbone Consultants

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Backbone Consultants provides IT Risk Advisory, and Security services. Our industry certified consultants are proven IT Security, Audit, and Privacy professionals who provide end to end services necessary to help protect your business. In simple terms, we are certified experts who help you protect your company's 'Backbone' -if you will.

[www.backboneconsultants.com](http://www.backboneconsultants.com)



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The Business Continuity Planners Association (BCPA), a non-profit, mutual-benefit group, supports professionals in business recovery, crisis management, emergency management, disaster preparedness planning, or a related professional vocation. The BCPA provides exchange of experience, professional growth in an educational environment supporting the mutual interest to the membership.

[www.bcpa.org](http://www.bcpa.org)

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Briggs and Morgan's Privacy and Data Security attorneys are committed to helping our clients prevent, prepare for, respond to, and minimize the impact of data security breaches and cyber attacks. From data protection to navigating complex legislation, we offer a full range of services related to privacy and information security.

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H-ISAC is a trusted community of critical infrastructure owners and operators within the Health Care and Public Health sector (HPH). The community is primarily focused on sharing timely, actionable and relevant information that can include data such as indicators of compromise, tactics, technique and procedures (TTPs) of threat actors, advice and best practices, mitigation strategies and other valuable material.

[www.h-isac.org](http://www.h-isac.org)



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InfraGard is a Federal Bureau of Investigation (FBI) program that began in the Cleveland Field Office in 1996. It was a local effort to gain support from the information technology industry and academia for the FBI's investigation efforts in the cyber arena. InfraGard and the FBI have developed a relationship of trust and credibility in exchange of information concerning various terrorism, intelligence, criminal and security matters.

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With approximately 1,000 members from over 100 organizations, the Minnesota chapter of ISACA provides a gateway to a global organization offering security, risk, control, and governance certifications. Additionally, ISACA offers a new security knowledge platform and professional program Cybersecurity Nexus (CSX). For more information please visit the chapter website.

[www.engage.isaca.org/minnesotachapter](http://www.engage.isaca.org/minnesotachapter)



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Our mission is to create a safe environment where information security practitioners can openly share expertise and ideas, providing practical, relevant, useful and timely information that, when applied, will develop and promote the (ISC)2 CISSP CBK® and help support the Information Security and Cyber Security Communities of the Upper Midwest.

[www.isc2tc.org](http://www.isc2tc.org)



Supporter

The Minnesota Chapter of the Information Systems Security Association (ISSA) is a not-for-profit organization of information security professionals and practitioners focused on promoting a secure digital world. Our goal is to be the community of choice for cybersecurity professionals dedicated to advancing individual growth, managing technology, risk and protecting critical information and infrastructure. We accomplish this by providing educational forums and peer interaction opportunities that enhance the knowledge, skill, and professional growth of our members.

[www.mn.issa.org](http://www.mn.issa.org)



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Healthcare  
& Med Device  
Session Host

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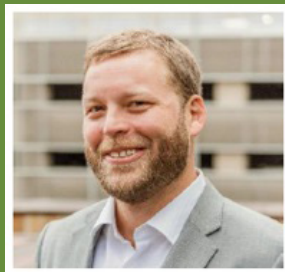
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# CANN CON MN 2019 SYMPOSIUM

**November 6, 2019  
8am - 4:20 pm**

Renaissance Minneapolis Hotel,  
the Depot, Minneapolis, MN

**Morning Keynote Speaker**



**Adam Orens, Founder**



**Salmeron Barnes, Partner**

## The Marijuana Policy Group

Their presentation will show actual data from Colorado and other legal states and a high-level estimation of the potential Minnesota market and economic impacts.



**House Majority Leader Ryan Winkler** Community Conversations and the House Majority Perspective: Representative Winkler will discuss the House Majority perspective on moving a bill forward and what he is hearing from our community conversations.



**Minneapolis Mayor Jacob Frey** will offer opening comments on the opportunities to advance racial equity and promote inclusive economic growth.

Download your **FREE**  
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The Economic Impact of Marijuana  
Legalization in Colorado  
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## Who Should Attend?

- Attorneys and Law Firm Administration
- Human Resources, Insurance and Financial Professionals
- Commercial Real Estate Brokers, agents, landlords and investors
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LEADERSHIP INSTITUTE

Founding  
Partner

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**Wednesday, November 20  
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\*as of October 8, 2019



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UPPER MIDWEST CHAPTER



4th Annual  
DONALD W. McCARTHY  
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**APRIL 29, 2020**

Keynote Speaker:

**ADMIRAL MIKE ROGERS**

Former NSA Director and Commander  
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# International Dinner

**Monday, October 28 | 6:15-8:30 PM**

## Mission

As the cyber threat reaches beyond national borders, so must collaboration to prevent cyber attacks. The Cyber Security Summit International Committee's mission is to unify defenses in the cyber domain through 1) An international consortium increasing situational awareness 2) Information sharing on emerging policy formulation and technologies 3) Using the platform of the Summit to showcase Minnesota as an international hub of business.

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## Agenda

**5:00-6:15 PM** VIP Reception

**6:30 PM** Dinner

**7:15 PM** International  
Panel Discussion

*Moderator: Harshal Mehta, CWT*
*Panelists: Dr. Massoud Amin, UofMN; Kathy Orner, CWT; Sean Costigan, ITL Security*
**7:45 PM** Audience Q&A

**8:15 PM** Closing Remarks

*Mark Ritchie, Global MN*




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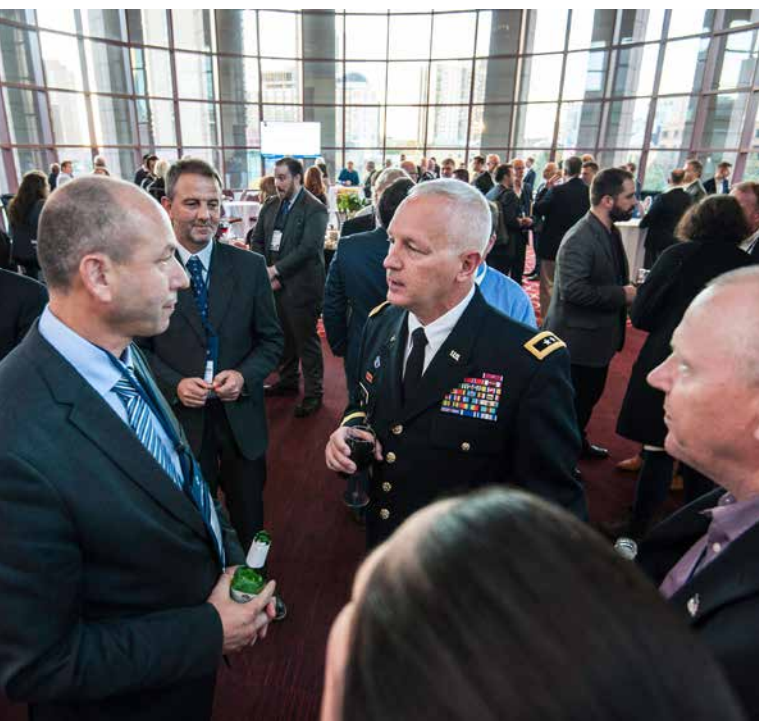
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CyberArk pioneered the market and remains the leader in securing enterprises against cyber attacks that take cover behind insider privileges and attack critical enterprise assets. Today, only CyberArk is delivering a new category of targeted security solutions that help leaders stop reacting to cyber threats and get ahead of them, preventing attack escalation before irreparable business harm is done.

**CyberArk.com**



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# Cyber Security Terminology

**ACCESS CONTROL**

The process of granting or denying specific requests for or attempts to: 1) obtain and use information and related information processing services; and 2) enter specific physical facilities

**ADVANCED PERSISTENT THREAT (APT)**

An adversary that possesses sophisticated levels of expertise and significant resources which allow it to create opportunities to achieve its objectives by using multiple attack vectors (e.g., cyber, physical, and deception).

**AIR GAP**

To physically separate or isolate a system from other systems or networks.

**ATTACK PATH**

The steps that an adversary takes or may take to plan, prepare for, and execute an attack.

**ATTACK PATTERN**

Similar cyber events or behaviors that may indicate an attack has occurred or is occurring, resulting in a security violation or a potential security violation.

**ATTACK SIGNATURE**

A characteristic or distinctive pattern that can be searched for or that can be used in matching to previously identified attacks.

**AUTHENTICATION**

The process of verifying the identity or other attributes of an entity (user, process, or device).

**AUTHORIZATION**

A process of determining, by evaluating applicable access control information, whether a subject is allowed to have the specified types of access to a particular resource.

**BACKDOOR**

A backdoor is a tool installed after a compromise to give an attacker easier access to the compromised system around any security mechanisms that are in place.

**BEHAVIOR MONITORING**

Observing activities of users, information systems, and processes and measuring the activities against organizational policies and rule, baselines of normal activity, thresholds, and trends.

**BLACKLIST**

A list of entities that are blocked or denied privileges or access.

**BLUE TEAM**

A group that defends an enterprise's information systems when mock attackers (i.e., the Red Team) attack, typically as part of an operational exercise conducted according to rules established and monitored by a neutral group (i.e., the White Team).

**BOT**

A computer connected to the Internet that has been surreptitiously / secretly compromised with malicious logic to perform activities under the command and control of a remote administrator.

**BUG**

An unexpected and relatively small defect, fault, flaw, or imperfection in an information system or device.

**CHECKSUM**

A value that is computed by a function that is dependent on the contents of a data object and is stored or transmitted together with the object, for the purpose of detecting changes in the data.

**CIP**

Critical Infrastructure Protection. The North American Electric Reliability Corporation (NERC), which FERC directed to develop Critical Infrastructure Protection (CIP) cyber security reliability standards.

**CIPHERTEXT**

Data or information in its encrypted form.

**CLOUD COMPUTING**

A model for enabling on-demand network access to a shared pool of configurable computing capabilities or resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

**COMPUTER (DIGITAL) FORENSICS**

The processes and tools to create a bit by bit copy of an electronic device (collection and acquisition) for the purpose of analyzing and reporting evidence; gather and preserve evidence that is legally defensible and does not alter the original device or data.

**CONTINUITY OF OPERATIONS PLAN**

A document that sets forth procedures for the continued performance of core capabilities and critical operations during any disruption or potential disruption.

**CRITICAL INFRASTRUCTURE**

The systems and assets, whether physical or virtual, so vital to society that the incapacity or destruction of such may have a debilitating impact on the security, economy, public health or safety, environment, or any combination of these matters.

**CRYPTANALYSIS**

The operations performed in defeating or circumventing cryptographic protection of information by applying mathematical techniques and without an initial knowledge of the key employed in providing the protection.

**CSIRT**

Cyber Security Incident Response Team

**CYBER MUNITIONS**

Technology system that has a purpose of causing harm and destruction by altering the running state of another system without permission.

**DATA BREACH**

The unauthorized movement or disclosure of sensitive information to a party, usually outside the organization, that is not authorized to have or see the information.

**DATA LOSS PREVENTION**

A set of procedures and mechanisms to stop sensitive data from leaving a security boundary.

**DATA MINING**

The process or techniques used to analyze large sets of existing information to discover previously unrevealed patterns or correlations.

**DENIAL OF SERVICE (DOS)**

An attack that prevents or impairs the authorized use of information system resources or services.

**DIGITAL FORENSICS**

The processes and specialized techniques for gathering, retaining, and analyzing system-related data (digital evidence) for investigative purposes.

**DIGITAL RIGHTS MANAGEMENT (DRM)**

A form of access control technology to protect and manage use of digital content or devices in accordance with the content or device provider's intentions.

**DIGITAL SIGNATURE**

A value computed with a cryptographic process using a private key and then appended to a data object, thereby digitally signing the data.

**DISTRIBUTED DENIAL OF SERVICE (DDOS)**

A denial of service technique that uses numerous systems to perform the attack simultaneously.

**DMZ**

DeMilitarized Zone. A physical or logical subnetwork where publicly facing internet connections occur; a subnetwork where an organization's external-facing services are exposed to an untrusted network (i.e. internet).

**DOXING**

The process or technique of gathering personal information on a target or subject, and building a dossier with the intent to cause harm.

**DYNAMIC ATTACK SURFACE**

The automated, on-the-fly changes of an information system's characteristics to thwart actions of an adversary.

**ELECTRONIC SIGNATURE**

Any mark in electronic form associated with an electronic document, applied with the intent to sign the document.

**ENTERPRISE RISK MANAGEMENT**

A comprehensive approach to risk management that engages people, processes, and systems across an organization to improve the quality of decision making for managing risks that may hinder an organization's ability to achieve its objectives.

**EVENT LOGS**

The computer-based documentation log of all events occurring within a system.

**EXFILTRATION**

The unauthorized transfer of information from an information system.

**EXPLOIT**

A technique to breach the security of a network or information system in violation of security policy.

**EXPOSURE**

The condition of being unprotected, thereby allowing access to information or access to capabilities that an attacker can use to enter a system or network.

**FIREWALL**

A physical appliance or software designed to control inbound and/or outbound electronic access.

**HASH VALUE**

A numeric value resulting from applying a mathematical algorithm against a set of data such as a file.

**HASHING**

A process of applying a mathematical algorithm against a set of data to produce a numeric value (a "hash value") that represents the data. The result of hashing is a value that can be used to validate if a file has been altered. Frequently used hash functions are MD5, SHA1 and SHA2

**IDENTITY AND ACCESS MANAGEMENT**

The methods and processes used to manage subjects and their authentication and authorizations to access specific objects.

**INCIDENT**

An occurrence that actually or potentially results in adverse consequences to an information system or the information that the system processes, stores, or transmits and that may require a response action to mitigate the consequences.

**INCIDENT HANDLER (CYBER SECURITY)**

The person assigned to lead a team of subject matter experts in cyber security and how to respond to adverse security events.

**INDUSTRIAL CONTROL SYSTEM**

An information system used to control industrial processes such as manufacturing, product handling, production, and distribution or to control infrastructure assets.

**INTEGRITY**

The property whereby information, an information system, or a component of a system has not been modified or destroyed in an unauthorized manner.

**INTRUSION DETECTION**

The process and methods for analyzing information from networks and information systems to determine if a security breach or security violation has occurred.

**KEYLOGGER**

Software or hardware that tracks keystrokes and keyboard events, usually surreptitiously / secretly, to monitor actions by the user of an information system.

**MACRO VIRUS**

A type of malicious code that attaches itself to documents and uses the macro programming capabilities of the document's application to execute, replicate, and spread or propagate itself.

**MALWARE**

Software that compromises the operation of a system by performing an unauthorized function or process.

**MITIGATION**

The application of one or more measures to reduce the likelihood of an unwanted occurrence and/or lessen its consequences.

**MOVING TARGET DEFENSE**

The presentation of a dynamic attack surface, increasing an adversary's work factor necessary to probe, attack, or maintain presence in a cyber target.

**MSSP**

Managed Security Service Provider

**NIST**

National Institute of Standards and Technology. The 800 series (NIST 800) covers cyber and information security.

**OPEN SOURCE**

Denoting software whose original source code is made free and available with no restrictions on use, selling, distribution or modification of the code.

**OPEN SOURCE INTELLIGENCE**

Intelligence collected from publicly available sources

**OPEN SOURCE TOOLS**

Tools that are made with open source code.

**OPERATIONAL EXERCISE**

An action-based exercise where personnel rehearse reactions to an incident scenario, drawing on their understanding of plans and procedures, roles, and responsibilities.

**PACKET CAPTURES**

The process of collecting, or capturing, network packets as they are being sent and received; used in diagnosing and solving network problems.

**PENETRATION TESTING (PEN TEST)**

An evaluation methodology whereby assessors actively probe for vulnerabilities and attempt to circumvent the security features of a network and/or information system.

**PHISHING**

A digital form of social engineering to deceive individuals into providing sensitive information.

**PRIVATE KEY**

A cryptographic key that must be kept confidential and is used to enable the operation of an asymmetric (public key) cryptographic algorithm.

**PUBLIC KEY**

The publicly-disclosed component of a pair of cryptographic keys used for asymmetric cryptography.

**RDP**

Remote Desktop Protocol. A Microsoft protocol through which a desktop or server may be accessed by a remote client.

**RECOVERY**

The activities after an incident or event to restore essential services and operations in the short and medium term and fully restore all capabilities in the longer term.

**RED TEAM**

A group authorized and organized to emulate a potential adversary's attack or exploitation capabilities against an enterprise's cybersecurity posture.

**REDUNDANCY**

Additional or alternative systems, sub-systems, assets, or processes that maintain a degree of overall functionality in case of loss or failure of another system, sub-system, asset, or process.

**RESILIENCE**

The ability to adapt to changing conditions and prepare for, withstand, and rapidly recover from disruption.

**RESPONSE**

The activities that address the short-term, direct effects of an incident and may also support short-term recovery.

**RISK MANAGEMENT**

The process of identifying, analyzing, assessing, and communicating risk and accepting, avoiding, transferring or controlling it to an acceptable level considering associated costs and benefits of any actions taken.

**ROAMING PROFILE**

A configuration in which the user profile within the domain is stored on a server and allows authorized users to log on to any computer within a network domain and have a consistent desktop experience.

**ROOTKIT**

A set of software tools with administrator-level access privileges installed on an information system and designed to hide the presence of the tools, maintain the access privileges, and conceal the activities conducted by the tools.

**SCRIPTKIDDIE**

An unskilled or non-sophisticated individual using pre-made hacking techniques and software to attack networks and deface websites.

**SECURITY AUTOMATION**

The use of information technology in place of manual processes for cyber incident response and management.

**SECURITY POLICY**

A rule or set of rules that govern the acceptable use of an organization's information and services to a level of acceptable risk and the means for protecting the organization's information assets.

**SIEM**

System Incident and Event Management. Tools and processes that collect data generated from devices and services to perform real time and historical correlated analysis to detect security, compliance and service levels events.

**SIGNATURE**

A recognizable, distinguishing pattern.

**SITUATIONAL AWARENESS**

Comprehending information about the current and developing security posture and risks, based on information gathered, observation and analysis, and knowledge or experience.

**SOFTWARE ASSURANCE**

The level of confidence that software is free from vulnerabilities, either intentionally designed into the software or accidentally inserted at any time during its lifecycle, and that the software functions in the intended manner.

**SPEARPHISHING**

An email or electronic communications scam targeted towards a specific individual, organization, or business.

**SPOOFING**

Faking the sending address of a transmission to gain illegal or unauthorized entry into a secure system. Extended The deliberate inducement of a user or resource to take incorrect action. Note: Impersonating, masquerading, piggybacking, and mimicking are forms of spoofing.

**SPYWARE**

Software that is secretly or surreptitiously installed into an information system without the knowledge of the system user or owner.

**TABLETOP EXERCISE**

A discussion-based exercise where personnel meet in a classroom setting or breakout groups and are presented with a scenario to validate the content of plans, procedures, policies, cooperative agreements or other information for managing an incident.

**THREAT AGENT**

An individual, group, organization, or government that conducts or has the intent to conduct detrimental activities.





## THREAT ASSESSMENT

The product or process of identifying or evaluating entities, actions, or occurrences, whether natural or man-made, that have or indicate the potential to harm life, information, operations, and/or property.

## TICKET

In access control, data that authenticates the identity of a client or a service and, together with a temporary encryption key (a session key), forms a credential.

## TOPOLOGY DIAGRAM

A schematic diagram displaying how the various elements in a network communicate with each other. A topology diagram may be physical or logical.

## TRAFFIC LIGHT PROTOCOL

A set of designations employing four colors (RED, AMBER, GREEN, and WHITE) used to ensure that sensitive information is shared with the correct audience.

## TROJAN HORSE

A computer program that appears to have a useful function, but also has a hidden and potentially malicious function that evades security mechanisms, sometimes by exploiting legitimate authorizations of a system entity that invokes the program.

## VIRUS

A computer program that can replicate itself, infect a computer without permission or knowledge of the user, and then spread or propagate to another computer.

## VULNERABILITY

A characteristic or specific weakness that renders an organization or asset (such as information or an information system) open to exploitation by a given threat or susceptible to a given hazard. Extended Characteristic of location or security posture or of design, security procedures, internal controls, or the implementation of any of these that permit a threat or hazard to occur. Vulnerability (expressing degree of vulnerability): qualitative or quantitative expression of the level of susceptibility to harm when a threat or hazard is realized.

## WHITE TEAM

A group responsible for refereeing an engagement between a Red Team of mock attackers and a Blue Team of actual defenders of information systems.

## WHITELIST

A list of entities that are considered trustworthy and are granted access or privileges.

## WORK FACTOR

An estimate of the effort or time needed by a potential adversary, with specified expertise and resources, to overcome a protective measure.

## WORM

A self-replicating, self-propagating, self-contained program that uses networking mechanisms to spread itself.

## ZERO DAY

"The Zero Day is the day a new vulnerability is made known. In some cases, a zero day exploit is referred to an exploit for which no patch is available yet. (Day one is day at which the patch is made available). Comprehending information about the current and developing security posture and risks, based on information gathered, observation and analysis, and knowledge or experience."



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# Cyber Security Acronyms

|                |                                                      |                |                                                 |
|----------------|------------------------------------------------------|----------------|-------------------------------------------------|
| <b>3DES</b>    | Triple Data Encryption Standard                      | <b>MAN</b>     | Metropolitan Access Network                     |
| <b>ACL</b>     | Access Control List                                  | <b>NAT</b>     | Network Address Translation                     |
| <b>ADP</b>     | Automated Data Processing                            | <b>NetBIOS</b> | Network Basic Input/Output System               |
| <b>AES</b>     | Advance Encryption Standard                          | <b>NIC</b>     | Network Interface Control                       |
| <b>AH</b>      | Authentication Header                                | <b>NIAP</b>    | National Information Assurance Partnership      |
| <b>AIS</b>     | Automated Information System                         | <b>NIST</b>    | National Institute for Standards and Technology |
| <b>AO</b>      | Area of Operations                                   | <b>NNTP</b>    | Network News Transfer Protocol                  |
| <b>APT</b>     | Advanced Persistent Threat                           | <b>OpSec</b>   | Operational Security                            |
| <b>BCP</b>     | Business Continuity Plan                             | <b>OS</b>      | Operating System                                |
| <b>BIA</b>     | Business Impact Analysis                             | <b>OSI</b>     | Open Systems Interconnect                       |
| <b>BoD</b>     | Beginning of Day                                     | <b>OWASP</b>   | Open Web Application Security Project           |
| <b>BYOD</b>    | Bring Your Own Device                                | <b>PaaS</b>    | Platform as a Service                           |
| <b>CA</b>      | Certificate Authority                                | <b>PIN</b>     | Personal Identification Number                  |
| <b>CIO</b>     | Chief Information Officer                            | <b>PKI</b>     | Public Key Infrastructure                       |
| <b>CISO</b>    | Chief Information Security Officer                   | <b>POTS</b>    | Plain Old Telephone Service                     |
| <b>CSO</b>     | Chief Security Officer                               | <b>PSTN</b>    | Public Switched Telephone Network               |
| <b>CAPEC</b>   | Common Attack Pattern Enumeration and Classification | <b>RA</b>      | Registration Authority                          |
| <b>CERT</b>    | Computer Emergency Response Team                     | <b>RAS</b>     | Remote Access Service                           |
| <b>DES</b>     | Data Encryption Standard                             | <b>ROI</b>     | Return On Investment                            |
| <b>DHS</b>     | Department of Homeland Security                      | <b>RPO</b>     | Recovery Point Objective                        |
| <b>DRP</b>     | Disaster Recovery Plan                               | <b>RTO</b>     | Recovery Time Objective                         |
| <b>DAC</b>     | Discretionary Access Control                         | <b>SaaS</b>    | Software as a Service                           |
| <b>DNS</b>     | Domain Name System                                   | <b>SCADA</b>   | Supervisory Control and Data Acquisition        |
| <b>ECC</b>     | Elliptical Curve Cryptography                        | <b>SDLC</b>    | Software Development Life Cycle                 |
| <b>EFT</b>     | Electronic Funds Transfer                            | <b>SDO</b>     | Service Delivery Objectives                     |
| <b>ESP</b>     | Encapsulation Security Payload                       | <b>SecaaS</b>  | Security as a Service                           |
| <b>EW</b>      | Electronic Warfare                                   | <b>SET</b>     | Secure Electronic Transaction                   |
| <b>FISMA</b>   | Federal Information Security Act                     | <b>SET</b>     | Social-Engineer Toolkit                         |
| <b>FTP</b>     | File Transfer Protocol                               | <b>SFA</b>     | Single Factor Authentication                    |
| <b>FO</b>      | Forward Observer                                     | <b>SLA</b>     | Service Level Agreement                         |
| <b>GRC</b>     | Governance Risk Management and Compliance            | <b>S/MIME</b>  | Secure Multipurpose Internet Mail Extension     |
| <b>HIPPA</b>   | Health Insurance                                     | <b>SMTP</b>    | Simple Mail Transfer Protocol                   |
| <b>HTTP</b>    | Hypertext Transfer Protocol                          | <b>SoD</b>     | Segregation/Seperation of Duties                |
| <b>HTTPS</b>   | Hypertext Transfer Protocol Secure                   | <b>SoD</b>     | Start of Day                                    |
| <b>IDS</b>     | Intrusion Detection System                           | <b>SPX</b>     | Sequenced Packet Exchange                       |
| <b>IaaS</b>    | Infrastructure as a Service                          | <b>SSH</b>     | Secure Shell                                    |
| <b>IANA</b>    | Internet Assigned Numbers Authority                  | <b>SSL</b>     | Secure Socket Layer                             |
| <b>ICMP</b>    | Internet Control Message Protocol                    | <b>TCO</b>     | Total Cost of Ownership                         |
| <b>IDS</b>     | Intrusion Detection System                           | <b>TCP</b>     | Transmission Control Protocol                   |
| <b>IETF</b>    | Internet Engineering Task Force                      | <b>TCP/IP</b>  | Transmission Control Protocol/Internet Protocol |
| <b>IG</b>      | Interior Guard                                       | <b>TKIP</b>    | Temperal Key Integrity Protocol                 |
| <b>IP</b>      | Internet Protocol                                    | <b>TLS</b>     | Transport Layer Security                        |
| <b>IPS</b>     | Intrusion Prevention System                          | <b>URL</b>     | Uniform Resource Locator                        |
| <b>IPSec</b>   | Internet Protocol Security                           | <b>UDP</b>     | User Datagram Protocol                          |
| <b>IPX</b>     | Internetwork Packet Exchange                         | <b>VLAN</b>    | Vitrual Local Area Network                      |
| <b>IS</b>      | Information Systems                                  | <b>VPN</b>     | Virtual Private Network                         |
| <b>ISO</b>     | International Standards Organization                 | <b>VoIP</b>    | Voice Over Internet Protocol                    |
| <b>ISP</b>     | Internet Service Provider                            | <b>WAN</b>     | Wide Area Network                               |
| <b>KRI</b>     | Key Risk Indicator                                   | <b>WAP</b>     | Wi-Fi Protected Access                          |
| <b>LAN</b>     | Local Area Network                                   | <b>WAP2</b>    | Wi-Fi Protected Access II                       |
| <b>LDAP</b>    | Lightweight Directory Access Protocol                | <b>WEP</b>     | Wired Equivalent Privacy                        |
| <b>MAC</b>     | Mandatory Access Control                             | <b>WLAN</b>    | Wireless Local Area Network                     |
| <b>MAC</b>     |                                                      | <b>XSS</b>     | Cross-site Scripting                            |
| <b>Address</b> | Media Access Control                                 |                |                                                 |

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