RSA® Conference 2021
Highlights and Insights

Video Interviews, News, Photos and More From the ISMG Team

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INFORMATION SECURITY
MEDIA GROUP

RSA Conference 2021: Making Virtual Possible

Face it: In 30 years of RSA Conference, none of us ever saw a year like this one.

No need to restate the obvious or to trot out overused words such as "unprecedented." You know why we were masked, grounded and participating in a 100%-virtual RSA Conference 2021. It wasn't ideal, it didn't provide the social adventures we all enjoy, but for health's sake we made do.

And from my perspective? We created some pretty compelling content.

We replaced our two live studios with a suite of home studios, and my core team of on-site interviewers grew to encompass nearly the entire ISMG global editorial team. The result? Possibly the most diverse group of interviews, topics and sources we have ever brought together under the RSA Conference coverage umbrella.

We have CEOs and CISOs, researchers and journalists, and we talk about everything from the Accellion vulnerability to the zero trust model. You want to hear about supply chain risk, ransomware defense and the evolving state of privacy? We've got it. Commentary from industry leaders and our own editorial team? We've got that, too.

None of us traveled to San Francisco for RSA Conference this year, but I daresay we still enjoyed an exhausting week of sessions, discussions and analysis. I'm not just pleased to share these interviews with you, I'm proud. These are the topics we will be discussing for the next year, and these are the thought leaders who will be developing answers to cybersecurity's most tasking problems.

On these next pages, meet the people who made this virtual event possible. Together, we made this an RSA Conference we hope not to repeat, but also one that we will never, ever forget.

Best,

Tom Field
SVP, Editorial
Information Security Media Group
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Visit us online for more RSA coverage:

www.databreachtoday.com/rsa-conference

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Video Interviews

CyberEdBoard

ISMG's CyberEdBoard is a private, community-driven ecosystem for influential security leaders to enhance professional brands, exchange critical insights and connect with peers and resources worldwide. See these Profiles in Leadership of select CyberEdBoard members.

More Content

Welcome to ISMG Studios at RSA Conference 2021

TOM FIELD, SVP EDITORIAL, ISMG

In advance of RSA Conference 2021, ISMG's stable of global editors opened their home studios to produce more than 100 virtual interviews with the global cybersecurity industry's leaders. Among the conversations were one-on-ones with RSA Conference keynoters, sponsors and speakers, as well as panel discussions dedicated to awareness training, the threat landscape and the emerging culture of surveillance.

CISO Spotlight: Troels Oerting, World Economic Forum
Veteran Cybersecurity Leader on Evolution of Threats, Technology and Leadership

Troels Oerting, a veteran CISO who most recently served the World Economic Forum, has a storied career. He's been there, done that and mitigated the risk. In this exclusive conversation, he shares his opinions on today's threats, emerging technologies and challenges for the next generation of security leaders.

Driving Healthcare Innovation With a Security Mindset
ChristianaCare CISO **Anahi Santiago** on Securing Hospitals Without Borders

Telehealth, a remote workforce, cloud migration - these were dreams, but not reality for many healthcare CISOs pre-pandemic. Today's a new world, and ChristianaCare CISO Anahi Santiago is happy to be helping to secure it. She discusses security's role in this new innovation.

WATCH ONLINE

WATCH ONLINE Featuring a member of: **CyberEdBoard**

"It's a very complicated dilemma. You have to get IT and OT working together — which can be very difficult."

Dawn Cappelli,
VP of Global Security and CISO, Rockwell Automation

Jay Chaudhry
CEO, Chairman, Founder,
Zscaler

Arun DeSouza
CISO,
Nexteer

'Zero Trust': Beyond Transformation

Zscaler CEO Jay Chaudhry and Nexteer CISO Arun DeSouza on the Model and the Mindset

Applications, the network, security - they all have been affected by the seismic changes of the past year, and they drive the need for adopting the "zero trust" model. Zscaler CEO Jay Chaudhry and Nexteer Automotive CISO Arun DeSouza discuss the necessary mindset shift.

In a video interview with Information Security Media Group as part of ISMG's RSA Conference 2021 coverage, Chaudhry and DeSouza discuss:

- Why zero trust requires an architectural approach;
- Zscaler's three core tenets of zero trust;
- The mindset shift that is necessary.

"The castle is becoming empty. The applications are leaving the castle; the users are leaving the castle. So, security needs to be done very differently."

- Jay Chaudhry

WATCH ONLINE   Featuring a member of:
CyberEdBoard

Cybersecurity Metrics That Matter

Cisco's **Wendy Nather** on How to Make a Security Program More Successful

Wendy Nather, head of advisory CISOs at Cisco, recently teamed up with researcher Wade Baker to investigate cybersecurity metrics and determine how to make a cybersecurity program measurably more successful. She shares some of her more surprising findings.

WATCH ONLINE

Cybercrime Crystal Ball: Which Threats Loom Largest?

Trend Micro's **Rik Ferguson** Describes Security Steps Organizations Must Take

What are the top cybercrime trends and threats coming up, and what should organizations be doing now to best prepare? Trend Micro's Rik Ferguson describes threats that are likely to emerge and intensify by 2030 and what security steps all organizations should be taking now.

WATCH ONLINE

Interpol's Top Cybercrime Cop on Ransomware, Supply Chains

Craig Jones Describes Joker's Stash Takedown, Strategies for Disrupting Gangs

What more can be done to disrupt cybercrime operations and embolden even tough-to-reach jurisdictions to take action against suspects? Craig Jones, director of cybercrime at Interpol, details recent disruptions - for example, of Joker's Stash - and takeaways for combating today's top online threats.

WATCH ONLINE

The Role of Breach Controls in Network Security

Phyllis Lee of CIS Discusses Prioritizing Defense Steps

If a breach happens, how can you defend your choice of controls - technical and procedural - to implement to improve your network security?

WATCH ONLINE

Art Gilliland,
CEO,
ThycoticCentrify

Ruby Zefo
Chief Privacy Officer,
Uber

Cloud Identity Security and the Power of PAM

ThycoticCentrify CEO Art Gilliland on the Enhanced Role of Privileged Access Management

Thycotic and Centrify recently merged to create a powerful new player in the privileged access management space. Art Gilliland, CEO of the new ThycoticCentrify, discusses this combined entity and the role it can play for enterprises small and large in ensuring cloud identity security.

In a video interview with Information Security Media Group as part of ISMG's RSA Conference 2021 coverage, Gilliland discusses:

- The power of the combined company;
- The role of PAM in cloud identity security;
- How recent critical infrastructure attacks have ramped up the need for greater PAM controls.

"This is a combination of two great companies that have been focused on privileged access management for a long time."

WATCH ONLINE

Ruby Zefo on Extreme Makeover: Privacy Edition

Uber Chief Privacy Officer on Impacts of Transformation and Legislation

After a year of pandemic resilience and digital transformation, what is the state of global privacy? Ruby Zefo, Uber's chief privacy officer, weighs in on the evolution of privacy, new and emerging legislation and advice for those just starting their privacy careers.

In a video interview with Information Security Media Group as part of its RSA Conference 2021 coverage, Zefo discusses:

- The state of privacy;
- New and emerging legislation;
- Advice for those starting careers in privacy.

"Privacy is having a moment."

WATCH ONLINE

Addressing Ransomware's Data Privacy Concerns

Jodi R. Daniels of Red Clover Advisors on Critical Privacy Considerations

While ransomware attacks are largely viewed as cybersecurity incidents, there are critical data privacy concerns that must always be top of mind, says Jodi R. Daniels, founder and CEO of privacy consultancy Red Clover Advisors.

WATCH ONLINE

Touhill: What It Takes to Be Resilient

Ex-Federal CISO Starts New Role as Head of SEI's CERT Division

As a retired Air Force general and the former federal CISO of the United States, Gregory Touhill is well-versed in critical infrastructure protection and resiliency. Now, as the new director of CMU SEI's CERT division, he has the opportunity to help foster new levels of education and collaboration

WATCH ONLINE

Gaining Control of the 'Internet of Medical Things'

Toby Gouker, CISO of First Health Advisory, on Addressing Device Risks

Gouker is the vice president and CISO at First Health Advisory. Previously, he was the provost for the SANS Technology Institute. He has years of experience in the federal healthcare IT industry, focusing on cybersecurity, health policy and healthcare risk management frameworks.

WATCH ONLINE

Creating Cultural Change With the Right Security Context

Nastassja Finnegan, CSO of First National Bank South Africa, on Overcoming Resistance

Nastassja Finnegan, CSO of First National Bank South Africa, says that the key to creating a strong culture of security in an organization is providing the right security context - and failure to do so results in pushback.

WATCH ONLINE

Featuring a member of:
Cyber**Ed**Board
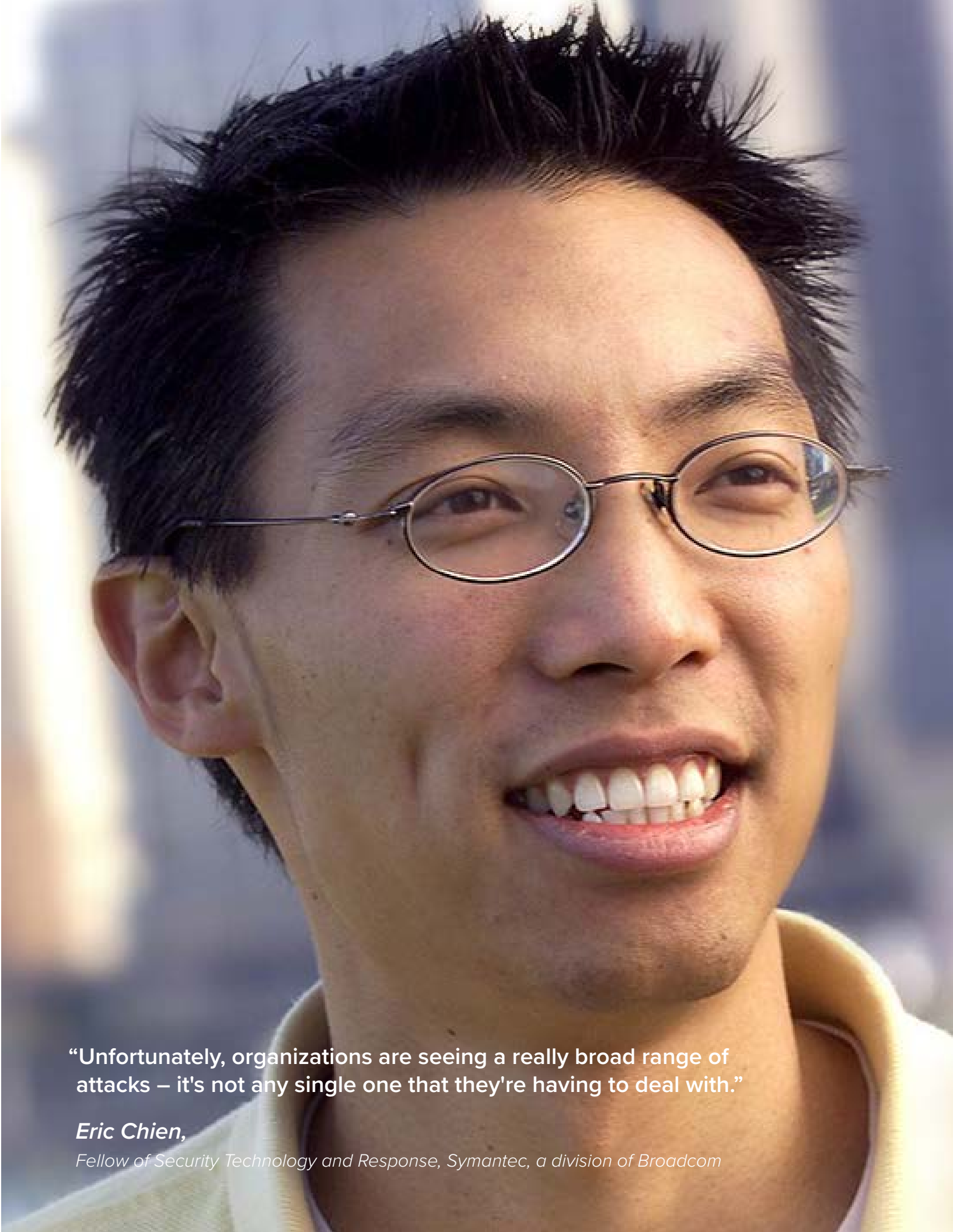
"Unfortunately, organizations are seeing a really broad range of attacks — it's not any single one that they're having to deal with."

Eric Chien,
Fellow of Security Technology and Response, Symantec, a division of Broadcom

Zulfikar Ramzan,
CDO,
RSA Group

RSA's Zulfikar Ramzan: Beyond Digital Transformation
Chief Digital Officer on the Evolution of Digital Risk Management

Nearly a year ago, RSA's chief digital officer, Zulfikar Ramzan, sat with Information Security Media Group to discuss 2021: A Cybersecurity Odyssey. Which predictions came true, and how have the threat and technology landscapes exploded in unexpected new directions?

"We are going to be in hybrid mode; we have not figured that problem out."

In a video interview as part of ISMG's RSA Conference 2021 coverage, Ramzan discusses:

- How RSA is responding to "work from anywhere";
- The new digital risk;
- Emerging technologies to take us beyond mere digital transformation.

WATCH ONLINE

How Not to Handle a Data Breach

Attorney **Ann Marie Mortimer** on Pitfalls to Avoid

Attorney Ann Marie Mortimer shares tips on reducing liability in the event of a data breach and how ordinary security team communications, standard incident response reports and bug bounty payments can make a bad situation even worse.

WATCH ONLINE

Shattering Cybersecurity's Glass Ceiling

Clar Rosso of (ISC)[2] on Improving Diversity in Cybersecurity Sector

The cybersecurity sector has made strides in growing its workforce and improving diversity. But significant hurdles remain, and Clar Rosso, CEO of (ISC)[2], says the keys to clearing them include training and refining current hiring practices.

WATCH ONLINE

Ripped From the Headlines: Incident Response Best Practices

BlackCloak's **Chris Pierson** Emphasizes Importance of Learning From Latest Scenarios

Want to stay well-protected against emerging cybersecurity threats? Keep a close eye on the latest headlines, says BlackCloak's Chris Pierson, who recommends organizations continually refine - and practice - their incident response plans based on the latest real-life attack scenarios.

WATCH ONLINE

Developing a Culture of Security

How Security and HR Teamed Up to Raise the Bar on Awareness Training

How can the security and HR organizations partner to foster a better, enterprisewide culture of security? This is what Steve Luczynski and Valerie Utsey did in previous roles, and they share insights from their presentation on the topic at RSA Conference 2021.

WATCH ONLINE

Healthcare's Widening Cyber 'Seams and Cracks'

DHS CISA's Joshua Corman on Addressing Critical Concerns

The surge of cyberattacks on the healthcare sector in the midst of the COVID-19 pandemic has accentuated many of critical cybersecurity challenges that must be urgently addressed, says Joshua Corman of the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency.

WATCH ONLINE

Visible Figures: Bridging the Skills Gap

John Yeoh of Cloud Security Alliance on Diversity and Inclusion

The mass migration to cloud has only added to the global cybersecurity gap, and John Yeoh, global vice president of research at the Cloud Security Alliance, is among those calling for greater "diversity by design" as enterprises look to fill these roles.

WATCH ONLINE

Michael Daniel on Operational Collaboration

Head of Cyber Threat Alliance on What It Takes to Enhance Cyber Readiness

As former U.S. cybersecurity coordinator in the Obama administration, Michael Daniel is well-versed in critical infrastructure vulnerabilities. Now, as president and CEO of Cyber Threat Alliance, he's working to bring the public and private sectors together to improve cybersecurity defenses.

WATCH ONLINE

Election Security: Lessons Learned from 2020

FBI's Elvis Chan on Why This Was 'Most Secure Election of My Career'

FBI agent Elvis Chan dedicated four years to election security, and he doesn't hesitate to say: The 2020 presidential election was "the most secure election of my career." He explains why, and what lessons learned we can apply to future elections.

WATCH ONLINE

Marene Allison,
CISO,
Johnson & Johnson

CISO Spotlight: Marene Allison, Johnson & Johnson

Reflections on Seismic Change in 2020 and Opportunities in the Year Ahead

As CISO of Johnson & Johnson, Marene Allison was used to gauging her security posture by the top threat activity: nation-state, cybercrime, insider or hacktivist. But in 2020, they all struck at once. Here is one CISO's take on the state of the industry.

"We're going to be looking at 'zero trust' in how we're moving forward."

In a video interview with Information Security Media Group as part of its RSA Conference 2021 coverage, Allison discusses:

- Her unique career path;
- How Johnson & Johnson has changed after the pandemic year;
- How these changes influence her cybersecurity priorities going forward.

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CyberEdBoard

Allie Mellen,
Analyst, Security and Risk,
Forrester Research

Wolfgang Goerlich,
Advisory CISO,
Cisco Secure

Regional Security in COVID-19

Forrester Analyst Allie Mellen on Regional Differences in Pandemic Impact

The COVID-19 pandemic has been referred to as a "great equalizer," and in many ways it is - until it isn't. Forrester analyst Allie Mellen, who has studied regional impacts of COVID-19, shares surprising findings from her research.

In a video interview with Information Security Media Group as part of its RSA Conference 2021 coverage, Mellen discusses:

- Common global impacts of COVID-19;
- Key regionals differences;
- Her new role and areas of focus at Forrester.

"Some countries handled the pandemic really well and were actually able to even have people back in the office, and then some countries didn't."

WATCH ONLINE

Passwordless: Is It Finally Ready for Prime Time?

Cisco's Wolfgang Goerlich on How to Overcome Remaining Obstacles

Passwordless authentication: Has its time finally arrived? J. Wolfgang Goerlich of Cisco talks about why now is the time to go passwordless, as well as which final obstacles need to be cleared to replace legacy authentication methods.

In a video interview with Information Security Media Group as part of its RSA Conference 2021 coverage, Goerlich discusses:

- Why now is the time for passwordless;
- Remaining authentication challenges;
- Interoperability with identity standards.

"We're finally at this really beautiful tipping point where we can move beyond the password after six decades of it being our first and last line of defense."

WATCH ONLINE

Dawn Cappelli,
VP of Global Security and CISO,
Rockwell Automation

Angela Rapko,
Director, Portfolio & Business Management (Services),
Rockwell Automation

"We are faster, we are leaner, we are hungrier, and we are moving faster on behalf of our customers."

Rohit Ghai,
CEO, RSA Group

The OT Security Journey

Dawn Cappelli and Angela Rapko of Rockwell Automation on Embracing IT/OT Convergence

IT and OT: They are culturally very different, and yet most cyberattacks that affect OT get their start in IT. We're in an age of IT/OT convergence, and Dawn Cappelli and Angela Rapko of Rockwell Automation discuss how to embrace the change and leverage new OT SOC-managed services.

In a video interview with Information Security Media Group as part of its RSA Conference 2021 coverage, Dawn Capelli discusses:

- Rockwell's OT security journey;
- The NIST framework foundation for an OT security strategy;
- How Rockwell Automation is helping customers take advantage of OT SOC services.

"It's a very complicated dilemma. You have to get IT and OT working together – which can be very difficult."

- Dawn Cappelli

SolarWinds, Ransomware and the State of the Industry

Philip Reitinger of Global Cyber Alliance on How We Can Fix This Mess We're In

In the past six months alone, we've seen the SolarWinds attack, the Microsoft Exchange Server exploits and the Colonial Pipeline ransomware strike. The threats are more imminent than ever. But Philip Reitinger of the Global Cyber Alliance believes strongly: We created this mess, and we can fix it.

WATCH ONLINE

How Risky Is Cyber Insurance?

John Pescatore of SANS on How This Nascent Practice Is Maturing

It's a young practice but, globally, cyber insurance is starting to exert its influence with some of the largest enterprises - and in some of the most notable cyberattacks. John Pescatore of SANS Institute discusses questions that cybersecurity leaders need to ask before acquiring new policies.

WATCH ONLINE

Cyber Journalism: Truth Is Stranger Than Fiction

Investigative Reporter **Joseph Menn** on Lessons Learned From the Biggest Hacks

He is known for his regular reports for Reuters, as well as for his books, including the latest: "Cult of the Dead Cow: How the Original Hacking Supergroup Might Just Save the World." Joseph Menn opens up on the biggest stories of the year and the lessons that must be learned.

WATCH ONLINE

Defending Research Programs Against Foreign Threats

Trust Farm CEO **Allen Phelps** Offers Best Security Practices for Research Organizations

Allen Phelps, CEO of the security firm Trust Farm, reviews some of the tactics, techniques and procedures used by foreign influence threat actors to target research organizations and shares some best practices to defend against those threats.

WATCH ONLINE

Chris Wysopal,
Founder and CTO,
Veracode

Is Digital Transformation Making AppSec Headless?

Veracode Founder Chris Wysopal on Blurring of Lines Between Programming and Ops

In the ongoing evolution of application security, the traditional lines between programming and operations have blurred. How does this change the roles of DevOps, security and DevSecOps? Chris Wysopal, founder of Veracode, shares insight.

"There's no doubt that COVID-19 has accelerated all the things that companies were doing anyway, but on a much longer path. It's really caused organizations change the way they build software."

Eric Chien,
Fellow of Security Technology and Response,
Symantec, a division of Broadcom

Threat Hunting Report: Beyond Supply Chain Attacks

Symantec's Eric Chien on Attack Trends and the Promise of Security Innovation

As technical director of the Attack Investigations Team at Symantec, a division of Broadcom, Eric Chien has access to intelligence and telemetry on the latest attack trends. He shares insights on supply chain attacks and more - and discusses how defenders can raise their game in response.

In a video interview with Information Security Media Group as part of ISMG's RSA Conference 2021 coverage, Chien discusses:

- The most concerning attack trends;
- How to respond to attack quantity and innovation;
- Ways in which defenders can raise their games and improve defenses.

"Unfortunately, organizations are seeing a really broad range of attacks – it's not any single one that they're having to deal with."

WATCH ONLINE

Navigating State Data Privacy Laws

Attorney **Sheila Sokolowski** Discusses Top Health Data Privacy Challenges

As more states continue to roll out their own health data-related privacy laws that do not fall under the federal regulatory umbrella of HIPAA, it is becoming more challenging for organizations to navigate the regulations, says privacy attorney Sheila Sokolowski of law firm Hintze Law PLLC.

WATCH ONLINE

Fresh Strategies Offer Hope for Combating Ransomware Scourge

Palo Alto Networks' **Jen Miller-Osborn** on New Task Force, Essential Defenses

The ransomware challenge facing organizations today traces directly to the success being enjoyed by gangs who wield such malware, says Jen Miller-Osborn, deputy director of threat intelligence for Unit 42 at Palo Alto Networks. Criminals who wield ransomware are seeing low barriers to entry and enormous potential profits on offer, especially as more victims pay higher ransoms.

WATCH ONLINE

Take the Complexity Out of Security

Gee Rittenhouse of Cisco Secure on Strategies for Reducing Complexity

In some ways, the complexity of our cybersecurity defenses has become one of our biggest vulnerabilities. Gee Rittenhouse of Cisco Secure discusses why simplifying networking is a significant step toward reducing cybersecurity complexity.

WATCH ONLINE

Why Endpoint Protection Is Key to Hybrid Work

Cisco's **Joakim Lialias** Discusses the Company's SecureX Platform

As organizations prepare for the post-pandemic era, endpoint protection will be key when the hybrid workforce returns to offices part time. Joakim Lialias, director of product marketing at Cisco, believes that the company's SecureX platform can help meet those security needs.

WATCH ONLINE

Art Coviello,
Partner,
Rally Ventures

Vasu Jakkal,
Corporate Vice President of Security,
Compliance and Identity,
Microsoft

Art Coviello: 'It's a Roaring '20s for Technology'

RSA's Former CEO on State of the Industry and Technologies to Watch

From identity and access management to cloud migration and connected devices, retired RSA CEO Art Coviello looks beyond the pandemic and says, "It's going to be a Roaring '20s for technology." But he also foresees a potentially calamitous decade for security.

In a video interview with Information Security Media Group as part of ISMG's RSA Conference 2021 coverage, Coviello discusses:

- COVID-19's impact on the cybersecurity marketplace;
- Why he predicts a "Roaring '20s for technology";
- The technologies he's bullish on as a venture capitalist.

> "We're in a period of dynamic risk. You have to have capabilities that can understand and react to the risks."

WATCH ONLINE

Security for a New Era of Resilience

Microsoft's Vasu Jakkal on the Shift From Prevention to Minimizing Impact

The past year has taught us much about resilience. But how do we update our tools and skills for the future? Vasu Jakkal, corporate vice president at Microsoft, discusses new, fundamental cybersecurity shifts and how our strategies for acquring skills and diversity must reflect them.

In a video interview with Information Security Media Group as part of its RSA Conference 2021 coverage, Jakkal discusses:

- Lessons learned from the pandemic experience;
- Fundamental shifts to threats and adversaries;
- Strategies for acquiring skills and diversity to create a world beyond attack prevention.

> "Breaches are inevitable, but their impact doesn't have to be."

WATCH ONLINE

Pandemic Offers Cybersecurity Opportunity to 'Do the Right Things'

Absolute Software's Nicko van Someren on Locking Down Unprotected, Sensitive Data

The rise of working from home during the pandemic creates a data security opportunity - and imperative - to "do the right things," says Absolute Software CTO Nicko van Someren. He discusses how to provide employees with easier access to sensitive data in a manner that will keep it better protected.

The Road Map to Continuous Behavioral-Based Authentication

Acceptto CEO Shahrokh Shahidzadeh Talks Authentication with CISO Jim Routh

Do we have to unlearn everything we think we know about authentication? Shahrokh Shahidzadeh, CEO of Acceptto Corp., talks with renowned CISO Jim Routh about the road map to continuous behavior-based authentication - and the paradigm shift required.

Kerissa Varma,
Group CISO,
Old Mutual Limited

Fraud 2021: Mules, Synthetic IDs, Deep Social Engineering

Rivner and Englund of BioCatch on the Shifting Fraud Landscape

The global fraud landscape has shifted dramatically in the past year. Uri Rivner and Erin Englund of BioCatch discuss the urgency of catching money mules, stopping synthetic IDs, and schemes that result from deep social engineering.

WATCH ONLINE

'Zero Trust' Security for the Mainframe

Broadcom's **Stuart McIrvine** Dispels Myths and Showcases New Realities

The "zero trust" model, in the context of mainframe security, might be different than you'd think. Stuart McIrvine of Broadcom separates myths from realities and showcases the road map for zero trust on the mainframe.

WATCH ONLINE

Cybersecurity Resilience:
One CISO's Pandemic Takeaways

Old Mutual's Kerissa Varma on Being 'Truly Resilient in Extraordinary Circumstances'

If anyone ever doubted the importance of thinking strategically about cybersecurity and laying the groundwork for expected future requirements, then the coronavirus pandemic will have made that clear, says Kerissa Varma, group CISO of Old Mutual Ltd.

In a video interview with Information Security Media Group as part of ISMG's RSA Conference 2021 coverage, Varma discusses:

- Regional perspectives on the seemingly overnight shift to remote work caused by the pandemic;
- Strategies for addressing the skills crunch amplified by COVID-19 and digital transformation;
- The challenge of managing supply chain security.

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Featuring a member of:
CyberEdBoard

"COVID-19 put us all in the same boat; we had to all go remote, with pretty much no planning."

Rohit Ghai,
CEO,
RSA Group

RSA CEO Rohit Ghai on the New RSA
Insights on RSA Conference, Secure Identity and XDR's Emerging Role

The past year has been a milestone one for RSA and for RSA Conference alike. In this exclusive interview, RSA Group CEO Rohit Ghai discusses the changes, the state of secure identity and the role XDR will play in shaping cybersecurity's future.

In a video interview with Information Security Media Group as part of its RSA Conference 2021 coverage, Ghai discusses:

- Changes to RSA and RSA Conference;
- RSA's refined approach to secure identity;
- The new agenda heading into 2022.

"We are faster, we are leaner, we are hungrier, and we are moving faster on behalf of our customers."

WATCH ONLINE

Tech Spotlight: Endpoint Security

Symantec's **Adam Licata** on How to Respond to 'Living Off the Land' Attacks

How can endpoint security tools help in combating attackers who enter organizations by such stealthy means as "living off the land?" In this Tech Spotlight, Adam Licata of Symantec, a division of Broadcom, discusses the new endpoint security challenges for cybersecurity leaders.

WATCH ONLINE

Tech Spotlight: Tools to Secure the New Landscape

Symantec's **Manoj Sharma** on Strategies for Securing Users, Devices and Apps in Post-Transformation World

Manoj Sharma has been associated with Symantec for nearly 20 years. But during that time he did not see seismic changes like the ones that have altered the cybersecurity landscape over the past 15 months. He shares insights on how to secure the new extended enterprise.

WATCH ONLINE

Threat Insight Via Network Detection and Response

Gigamon's **Bassam Khan** on How to Respond to the Visibility Challenge

As enterprises adjust to the new threat landscape, how must they also adjust their approach to detection? Bassam Khan of Gigamon discusses the visibility challenge and the promise of new network detection and response solutions.

WATCH ONLINE

Authentication Methods to Support 'Work From Anywhere'

LogMeIn CISO **Michael Oberlaender** Offers Strategic Insights

Michael Oberlaender of LogMeIn describes authentication methods that businesses can use to support the permanent "work from anywhere" model.

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CyberEdBoard

Automation and Management of Digital Identities

Sectigo's **Jason Soroko** on Passwordless Authentication and Other Trends

The range of digital identities has evolved into four distinct categories. What role can automation play in managing them? Jason Soroko addresses these and other trends, including the future of passwordless authentication.

WATCH ONLINE

Sophos on 2021 State of Ransomware

Dan Schiappa Shares New Research on Attacks, Adversaries and Mitigation Strategies

Sophos recently released its 2021 State of Ransomware report, and it includes surprising findings on remediation costs, which have more than doubled over the past year. Dan Schiappa tackles the question: Does it pay to pay ransoms?

WATCH ONLINE

Why Crowdsourcing Cybersecurity Needs Additional Innovation

Synack's **Aisling MacRunnels** Discusses How to Gain Customers' Trust

With recent incidents such as the Colonial Pipeline ransomware attack, cybersecurity needs fresh approaches and innovation now more than ever. Aisling MacRunnels of Synack discusses why crowdsourcing security is a way to gain customer trust.

WATCH ONLINE

Cloud Security: Encryption and Key Management Essentials

Thales' **Todd Moore** on Securing Multi-Cloud Strategies, Taming Data Sprawl and Silos

The ongoing pandemic has driven massive changes in business operations, including increased remote work and accelerated cloud transformation. But while those have enabled organizations to be more agile, they also pose multiple compliance and operational challenges, says Todd Moore, vice president of encryption products at Thales.

WATCH ONLINE

Sumedh Thakar,
CEO,
Qualys

New Qualys CEO Tackles Cybersecurity Asset Management

Sumedh Thakar Outlines Vision to Reduce Complexity and Enhance New Security Landscape

Longtime Qualys leader Sumedh Thakar recently was named CEO of the company. Now he's laying the groundwork for a long-term vision that includes helping customers adjust to the new enterprise security landscape and embrace cybersecurity asset management.

In a video interview with Information Security Media Group as part of ISMG's RSA Conference 2021 coverage, Thakar discusses:

- His leadership vision as CEO;
- The shifting security landscape;
- The role of cybersecurity asset management.

"Our long-term vision is to continue to put innovation onto the platform, so we can build a platform that can bring multiple aspects of security into one."

WATCH ONLINE
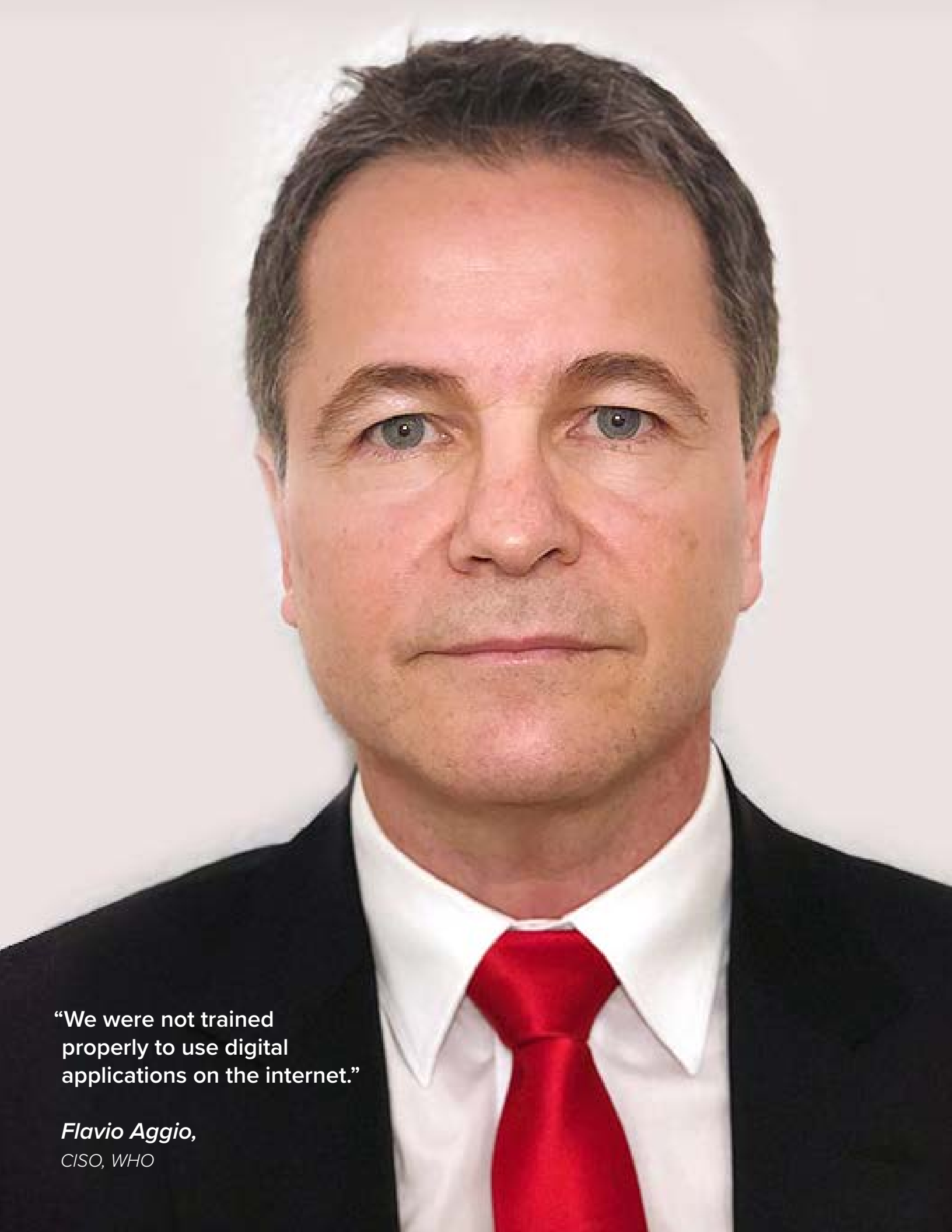
"We were not trained properly to use digital applications on the internet."

Flavio Aggio,
CISO, WHO

Real-Time Application and Cloud Workload Protection

TrueFort CEO **Sameer Malhotra** on 'Real-Time' Solutions in Application Environments

Securing the perimeter has given way to securing the application environment. And with this shift comes a new urgency to inject real-time security solutions in these dynamic new environments. Sameer Malhotra, CEO and founder of TrueFort, shares insights.

WATCH ONLINE

Preparing for 'Shift Left'

Venafi's **Shivajee Samdarshi** on Changing Mindset in Software Development

The cybersecurity adversaries embrace the concept of "shift left," so shouldn't the defenders? Shivajee Samdarshi of Venafi discusses the implications and mindset change for software development and engineering teams.

WATCH ONLINE

Debunking Myths About MSPs

WatchGuard CEO **Prakash Panjwani** Offers a Guide to Collaborating With MSPs

Increased reliance on the agile and remote work model has created more opportunities for MSPs. WatchGuard CEO Prakash Panjwani shares advice on how to engage an MSP that fits into the organization's business model and establish a good partnership.

WATCH ONLINE

Progress in the Fight Against Ransomware

Derek Manky of Fortinet's FortiGuard Labs on Trends, Takedowns and Innovations

Ransomware: The news isn't all bad. In fact, Derek Manky of Fortinet's FortiGuard Labs argues that recent takedowns and innovations have led to significant strides in defending against today's most crippling malware attacks.

WATCH ONLINE

Introducing MITRE ATT&CK Defender

Rick Gordon of MITRE Engenuity Details New Training, Certification

A recent study showed that even though 82% of cybersecurity professionals are familiar with the MITRE ATT&CK framework, only 8% said they used it regularly. This led to development of the new MITRE ATT&CK Defender training and certification. Rick Gordon of MITRE Engenuity explains.

WATCH ONLINE

Taking a Fresh Approach to Combating Ransomware

Global Cyber Alliance's **Megan Stifel** on Stopping Cybercrime

With the attacks against Colonial Pipeline and other organizations continuing to make news, ransomware remains one of the most-discussed problems in cybersecurity. Megan Stifel, the executive director of the Americas for the Global Cyber Alliance, has ideas about how private firms and government agencies can fight back against the criminal groups who wield crypto-locking malware.

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Utilizing SOC Automation to Its Full Capacity

PLUS Malaysia's **Abdullah Al-Attas** Talks About Getting SOC Right

SOC automation capabilities need to be enhanced to go beyond performing routine tasks, says Abdullah Al-Attas, head of cybersecurity at PLUS Malaysia, an expressway service provider.

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Authentication Challenges in Faster Payments

Peter Tapling Discusses Mitigation Plans

When it comes to faster payments, the only way to control fraud is to build in fraud and risk mitigation plans before a transaction is made, says Peter Tapling, board member of the U.S. Faster Payments Council and a speaker at RSA's virtual conference this year.

WATCH ONLINE

Avi Shua,
CEO,
Orca Security

Thomas Hill,
CISO,
Live Oak Bank

Live Oak Bank CISO Cloud Strategy

Orca Security CEO and Live Oak Bank CISO on Securing Public Cloud Estate

Like many organizations amid digital transformation, Live Oak Bank was growing its cloud footprint and had specific needs for a cloud security provider. Avi Shua, CEO of Orca Security, joins Live Oak Bank CISO Thomas Hill to discuss friction, security and visibility.

In a video interview with Information Security Media Group as part of ISMG's RSA Conference 2021 coverage, Shua and Hill discuss:

- Live Oak Bank's cloud security needs;
- Criteria for selecting a cloud security provider;
- Security challenges for banks moving into multi-cloud environments.

> "The issue of friction cannot be stressed enough. At the end of the day, friction is what is killing security within large organizations."
>
> *- Avi Shua*

WATCH ONLINE

Kathy Wang,
CISO,
Very Good Security

Kenneth Geers,
CISO,
Very Good Security

Will Crypto Displace the Dollar?

Wang and Geers of Very Good Security on Whether Crypto Can Be the New Reserve

Cryptocurrency is gaining traction worldwide. But is it ready to displace the U.S. dollar as the world's reserve currency? Kathy Wang and Kenneth Geers of Very Good Security bring this topic to the RSA Conference stage and share exclusive insights in this panel discussion.

In a video interview with Information Security Media Group as part of its RSA Conference 2021 coverage, Wang and Geers discuss:

- The revolutionary potential of cryptocurrency;
- Ramifications and politics;
- Questions concerning vulnerabilities and risks.

> "There is a lot of financial motivation for attackers to mine crypto."
>
> *- Kathy Wang*

WATCH ONLINE

Building Accountability for Cybersecurity

Saudi Telecom's **Arwa Alhamad** on Involving All Stakeholders

CISOs should democratize cybersecurity by making all the stakeholders accountable, says Arwa Alhamad, cybersecurity director at Saudi Telecom Co.

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Eyes Wide Open: Visibility in Digital Risk Protection

PlanSource CISO **TJ Hart** and CybelAngel's **Todd Carroll** on Practical Uses

Customer data, PII, web apps — your strategic assets are digital, and they require a new degree of digital risk protection. In this exclusive panel, CISOs Todd Carroll of CybelAngel and TJ Hart of PlanSource discuss the needs, scope and practical use cases.

Featuring a member of:
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SASE: The Need, the Challenges, the Payoff

Netskope's **Mike Anderson,** Health Partners Plans CISO **Mark Eggleston** Share Insights

Secure Access Service Edge - SASE - has emerged in hardly two years' time as a new cloud-enabled architecture for delivering cybersecurity to today's dispersed workforce. Mike Anderson of Netskope and Mark Eggleston of Health Partners Plans discuss the promise and potential pitfalls of SASE.

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Rethinking Cybersecurity by Managing Complexity

ReliaQuest's **Ashok Sankar** on Security Investments, Complexity and Metrics That Matter

Tool sprawl is a symptom, and complexity is cybersecurity's chronic illness. Ashok Sankar of ReliaQuest shares ways to manage this complexity and help organizations rethink how they deploy and measure their cybersecurity defenses.

WATCH ONLINE

"We can simplify security by turning
it into a data problem."

Gee Rittenhouse,
Senior Vice President and General Manager, Cisco Secure

What Should a Modern SOC Look Like?

A CEO and CISO Discuss Challenges and
Collaboration

How has the shift to remote working and multi-cloud environments affected the Security Operations Center, or SOC? Gene Yoo, CEO of Resecurity, and Bob Schlotfelt, CISO of the Los Angeles County Employees Retirement Association, discuss the state of the SOC

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Business Imperative: Cloud Adoption, With Security

Sysdig's **Knox Anderson** and 7-Eleven's **Sujeet Bambawale** on Cloud Security Essentials

That's why it's imperative that as organizations adopt more cloud-based infrastructure, they maintain DevOps workflows designed to deploy cloud resources, including containers and Kubernetes, in a secure manner. But what best practices should organizations

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Welcome to Cyber**EdBoard**

CyberEdBoard is the premier member's only community of executives and thought leaders in the fields of security and IT. Members have access to a robust platform of resources that promote peer-to-peer knowledge-sharing, executive-level education, and professional growth.

Education, information sharing and intelligence are the next steps whereby organizations can tackle risk that fits under the "known unknown" or even the "unknown unknown" category. CyberEdBoard membership facilitates organizations' intelligence gathering and dissemination on a wide range of topics that are essential to cybersecurity resiliency programs.

To apply for membership, please visit: CyberEdBoard.io

Diego Souza,
Global *CISO*
Nexteer

Profiles in Leadership: Francis McGillicuddy, Finleap
Navigating the Open Banking Revolution Requires Flexibility, Technology, Salesmanship

Want a challenge? Then look to the financial technology - aka fintech - sector, where the rise of open banking has helped new firms such as Berlin-based Finleap Connect flourish by providing services to large banks and insurance companies, says its information security officer, Francis McGillicuddy.

WATCH ONLINE

Profiles in Leadership: Tim Heger, HealthBridge
HealthBridge's Tim Heger Discusses His Dual Roles of CISO and CTO

As both a CISO and CTO, Tim Heger is in the unique position of shaping HealthBridge's approach to security as well as adopting new technologies to keep the organization on the cutting edge. In his spare time, he helps mentor and encourage startups.

WATCH ONLINE

Profiles in Leadership: Diego Souza
Global CISO at Cummins Discusses Mentoring New Generation of Cyber Leaders

Diego Souza's main responsibility as the global CISO at Cummins Inc. is focusing on the gap between IT and OT security and effectively communicating risk and other security issues to the board. But his passion is developing and mentoring the next generation of cybersecurity leaders.

In a video interview with Information Security Media Group as part of its Cybersecurity Leadership series, Souza discusses:

- Bridging the gap between IT and OT security;
- How best to communicate security issues and risk to the board;
- What it's like to mentor the next generation of cybersecurity leadership.

WATCH ONLINE

"I have the obligation to push and pull up the next generation. It's my duty to help others to get the same opportunity that i got."

Rebecca Wynn,
Global CISO and Privacy Officer

Mohamed Mostafa,
CISO
Egyptian Arab Land Bank

Profiles in Leadership: Rebecca Wynn

## Global CISO, Privacy Officer Seeks to Always Push the Envelope

As a global CISO and privacy officer, Rebecca Wynn has earned her stripes. And she's upfront with her expectations: She will take your security organization to the next level. But she also won't hesitate to walk away if she sees that cybersecurity commitment is nothing but talk.

In a video interview with Information Security Media Group as part of ISMG's RSA Conference 2021 coverage, and as part of the CyberEdBoard's ongoing Profiles in Leadership series, Wynn discusses:

- Her career path and priorities;
- Why she hates "checkbox anything";
- What will make her walk away from an opportunity.

> "Some companies try to fix what is the immediate Band-Aid versus looking to see what is really the root issue they are trying to resolve."

WATCH ONLINE
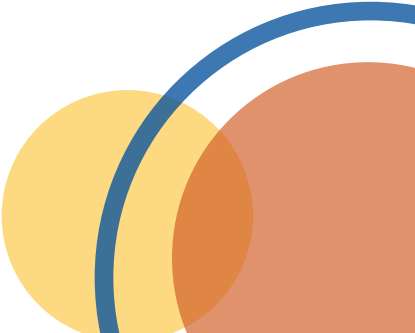
Profiles in Leadership: Mohamed Mostafa, EAL Bank

'No Risk, No Business' Remains Guiding Mantra as CISO Drives Business Collaboration

"No risk, no business." As global CISO of Egyptian Arab Land Bank, Mohamed Mostafa says he regularly applies that maxim, which he learned from a prior boss, as he seeks to maximize his organization's security posture while working closely to collaborate with every line of business.

In a video interview with Information Security Media Group as part of its Cybersecurity Leadership series, Mostafa discusses:

- Proven techniques for fostering collaboration - and buy-in - from across the business, including the CIO;
- Strategies for pursuing digital transformation in a secure manner;
- The importance of creating and empowering a separate, internal controls and compliance team to review internal processes.

> "CISOs need to tell staff members, 'Let's work together to facilitate your work.'"

WATCH ONLINE
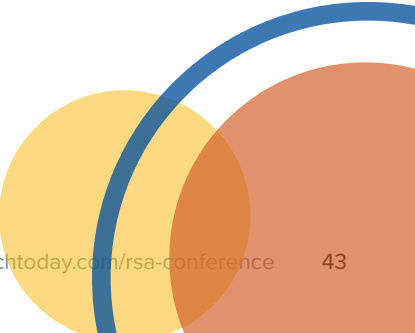
Profiles in Leadership: Michael Lines

The Head of Product Security for LeanIX Is Focused on Risk

As the head of product security for LeanIX, Michael Lines is primarily focused on risk management, risk assessment and data governance. He tells why he believes that more security leaders and CISOs should focus on risk.

WATCH ONLINE

Profiles in Leadership: Jo Stewart-Rattray

Vice President of Australian Computer Society Followed Unique Path From CIO to CISO

CIO. Consulting CISO. Mentor. Activist on behalf of recruiting more women for cybersecurity and leadership. Jo Stewart-Rattray has filled many roles, and she has great insights to share with those who are starting or changing careers.

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Profiles in Leadership: Ian Keller, Ericsson

Serving as a Customer-Facing CISO and Knowledge Sharer to Better Secure Operators

As director of customer security for networking and telecommunications giant Ericsson, Ian Keller works to ensure customers have the latest knowledge and intelligence required to deploy the company's products in a secure and compliant manner.

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Profiles in Leadership: Suren Naidoo, The Foschini Group

CISO Describes Best Practices for Securing Buy-In, Delivering Constant Innovation

Experience as a chief enterprise architect offers excellent underpinnings for performing as a cybersecurity leader, in that both roles require creating and executing a vision, backed by stakeholder buy-in and navigating obstacles - no matter any scarcity of resources, skills or time, says Suren Naidoo, CISO of The Foschini Group.

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Adrian Mayers,
VP, CISO
Premera Blue Cross

Profiles in Leadership: Adrian Mayers, Premera Blue Cross

CISO on Why Cybersecurity Is Now a Matter of National Defense

In the wake of recent attacks on supply chains and critical infrastructure, Adrian Mayers says it's time for cybersecurity to be seen as an issue of national defense, and that cybersecurity leaders throughout the private and public sectors must embrace their role to protect national interests.

In a video interview with Information Security Media Group as part of ISMG's Cybersecurity Leadership series and part of its RSA Conference 2021 coverage, Mayers discusses:

- His background and role;
- Cybersecurity as a national defense issue;
- How intelligence sharing can be done in a meaningful way.

"We need to think about cyber space the same way we think about our air space."

WATCH ONLINE

Profiles in Leadership: Anne Hännikäinen, Fintraffic

Escape Rooms: One CISO's Tool for Honing Cybersecurity Mindsets and Awareness

Anne Hännikäinen, CISO of Fintraffic, says maintaining good cybersecurity practices must include such essentials as having senior leadership on board, but it can be measurably bolstered further by applying strategies such as gamification.

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Profiles in Leadership: Khawaja Ali of the Federal Bank of Pakistan

Why a Collaborative Approach to Cybersecurity Is Essential

Khwaja Mohammad Ali of the Federal Bank of Pakistan explains why cyberattack prevention requires collaboration between tech teams and senior management.

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Profiles in Leadership: Mario Demarillas of Exceture

CISO Discusses Changing Security Culture in Organizations

Mario Demarillas, CISO and head of IT consulting and software engineering at Exceture, in the Philippines, strikes a balance between securing his organization and its business offering in security.

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Profiles in Leadership: Manish Dave of LafargeHolcim

Why It Is Important to Aim for the Stars in Security

Manish Dave of LafargeHolcim has been part of the manufacturing industry all his professional life. He heads the IT security and compliance for the APAC region and aims to have a false positive rate of zero.

WATCH ONLINE

Natassja Finnegan,
CSO,
FNB South Africa

Profiles in Leadership: Nastassja Finnegan, FNB
Always 'Sell' Security to the Business, says First National Bank of South Africa CSO

Drawing on her experience selling cybersecurity products and services, Nastassja Finnegan now sits in the hot seat, serving as cybersecurity officer of South Africa's First National Bank. Succeeding in either role, she says, requires interfacing with users, understanding their needs and helping them to do the right thing.

In a video interview with Information Security Media Group as part of its Cybersecurity Leadership series, Finnegan discusses:

- Articulating technical risks and impact on a business unit by business unit basis;
- The importance of change management and proper user awareness and education;
- Securing supply chains.

> "I'm able to take the cybersecurity world and translate that with context into the business."

WATCH ONLINE

Nicki Doble,
CISO,
Cover-More Group

Profiles in Leadership: Nicki Doble, Cover-More Group
CIO and CISO on Why Diversity Is Important in Security Teams

For Nicki Doble, group CIO and CISO at Cover-More Group - an Australian travel insurance company and part of the Zurich Insurance Group - the top priority is global security and privacy standardization across the organization.

In a video interview with Information Security Media Group as part of ISMG's RSA Conference 2021 coverage, and as part of the CyberEdBoard's ongoing Profiles in Leadership series, Doble discusses:

- Her key career milestones in cybersecurity;
- How to democratize;
- Key challenges in her role as CIO and CISO.

"It is important that one particular region does not get behind because we can't afford that."

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Nicki Doble, *Cover-More Group*

Diego Souza, *Cummins*

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Ian Keller, *Ericsson*

Suren Naidoo, *TFG*

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Arwa Alhamad, *Saudi Telecom Company*

Kerissa Varma, *Old Mutual Limited*

Michael Oberlaender, *LogMeIn*

Abdullah Al-Attas, *PLUS Malaysia*

More RSA Conference 2021 Content from ISMG

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Roger Sels of BlackBerry on Changing Our Approach to Security

Defending Entry Points: A New Approach
BlastWave CEO Tom Sego on Re-Envisioning How We Secure Networks

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James Bone of Global Compliance Associates on Mitigating Enterprise Risk

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Professor Ron Woerner on Taking the Right Steps

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Dr. Victoria Baines, Visiting Research Fellow at Oxford, Discusses Potential Cyberthreats

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RSA Cryptographers' Panel: SolarWinds, NFTs and More

Machine Leading and Quantum Computing Challenges Also Among the Topics Analyzed

BY MATHEW SCHWARTZ | 🐦 @euroinfosec

What do the world's leading encryption and security experts think about non-fungible tokens, supply chain attacks, coordinated vulnerability disclosure and the state of quantum computing?

The cryptographers' panel at this year's virtual RSA Conference addressed all these issues on Monday as part of the event's opening morning of keynote speeches and panels (see: RSA's CEO: For Maximum Resiliency, Unleash Chaos Monkeys).

As in recent years, panelists included Ron Rivest and Adi Shamir - the R and S in the RSA cryptosystem. They were joined by Carmela Troncoso, an assistant professor at Switzerland's École Polytechnique Fédérale de Lausanne, whose work focuses on analyzing, building and deploying secure and privacy-preserving systems.

Also on the panel: Ross Anderson, a professor of security engineering at both the University of Cambridge and the University of Edinburgh, founder of the discipline of security economics and author of the textbook "Security Engineering - A Guide to Building Dependable Distributed Systems."
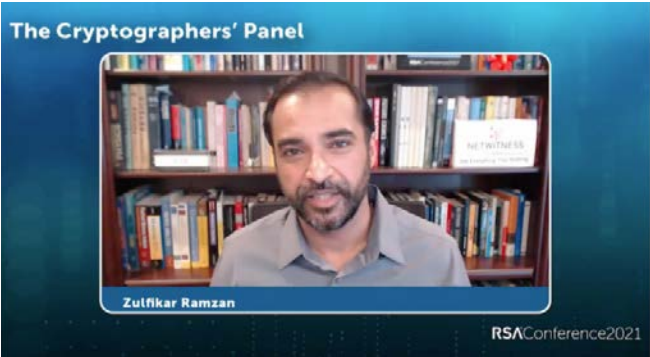
Moderating was Zulfikar Ramzan, chief digital officer at RSA - the security firm that runns the eponymous conference - who dived headfirst into one aspect of the "crypto" debate.

"Unfortunately, in the last few years, we've seen the term crypto get a bit usurped by a different community of people who may expect us to talk about things like blockchain and bitcoin. And I hate to disappoint those people," he said (see: Non-Fungible Tokens: Of Course They're Attracting Scammers). "So I thought maybe the first question I could ask is abouta topic that's come up very recently: the non-fungible token, or the NFT."

Fun With Non-Fungible Tokens

Rivest, a computer science and cryptography professor at MIT, likened NFTs - an entry on the blockchain certifying that someone owns a particular digital asset - to the Dutch tulip bulb market bubble in the 1600s. But whereas tulips are tangible, NFTs involve both a second level - a picture of a tulip - and then a third level, "which is sort of a token which points at the picture." In other words, he's skeptical.

Often, the role of skeptic gets played by Adi Shamir, a professor of applied mathematics at Israel's Weizmann Institute of Science. But in this case, he says he has a positive perspective on the NFT trend. "We should all look at it like a game of Monopoly," he said. "So a group of people decide to join forces and play the game. And in that game, some people claim that they own the White House. In the real world, it doesn't give them the right to evict Donald Trump or Joe Biden. But they can play the game as if they own the White House."

RSA Cryptosystem: Rumors of Its Demise

Recently, cryptographer Claus Schnorr released a paper claiming that he'd found a way to easily break the RSA algorithm.

If this is true - and the jury is still out - Ramzan asked if Schnorr should have attempted to first help coordinate a fix before releasing the paper.

"When we started doing work on the economics of information security 20 years ago, one of the first big problems that came up was responsible disclosure," Anderson said. "Back in those days, people were split between the BugTraq guys who wanted to disclose everything at once and the company lawyers who wanted everything kept quiet forever. And the current, responsible disclosure regime has come out of that."

But what if something really big gets broken, like the random-number generator built into Linux, or a cryptosystem such as RSA that is fundamental to internet security? Anderson said it wouldn't necessarily "be the end of the world," but that "it would be an interesting year or two" as everyone rushed to upgrade.

Shamir then held up a copy of the 1977 MIT technical report detailing the RSA cryptosystem, signed by himself, Rivest and co-inventor Leonard Adleman, and said they planned to make an NFT out of it and donate the proceeds to charity. Ramzan promised to announce further details soon on the RSA Conference website.

Troncoso said the failure of something so large as the RSA algorithm poses a question with unclear answers: "What should we do - make it public as soon as possible so that it gets fixed, or keep it secret, so that nobody can exploit it? And this is becoming a very complicated thing, especially in coronavirus times."

In the meantime, both Rivest and Shamir said that they've looked into Schnorr's paper and remain skeptical, although they said they'll applaud his efforts if he's successful.

Quantum Computing: No Killer App Yet

Why hasn't quantum computing remade the world as we know it?

Quantum computing has the potential to transform computing, for example, to break public key encryption systems such as RSA. But so far, at least, there's been no information security apocalypse.

Ramzan said it would be clear when someone successfully builds a quantum computer at scale, because "the first killer application of quantum computing - in terms of actually the cryptography" would obviously be to crack the bitcoin wallet held by the cryptocurrency's pseudonymous inventor, "Satoshi Nakamoto," which contains 50 bitcoins, currently worth more than $2 million.

But when it comes to advances in quantum computing, Shamir said it's recently been "two steps forward and one step back."

Rivest said he was astonished at the amount of investment going into startups pursuing "technology that doesn't yet exist" and may not come to fruition.

"The two major questions are: Can you build a quantum computer at scale that will last long enough to do a useful computation? That's number one," he said. "Number two is: Are there useful applications for this technology if you even could build it? And I think the answers so far are not clear."

Anderson says that from his perspective as someone who works with quantum mechanics, "the physicists are basically copying Ron and Adi, because they observed how the RSA discovery all those years ago enabled number theorists to get their shovels into the military budget, and they wanted to do the same for quantum mechanics, and in particular, for quantum optics."

While as yet there have not been any killer quantum computing or cryptography applications, Anderson said there have been "a number of very interesting and useful results" in two other areas: quantum sensing and metrology, which refers to making extremely accurate physical measurements using quantum theory.

"We now have got very much better accelerometers and gyros, instruments for archaeologists, means of doing gravimetric navigation and submarines, and so on and so forth," he said. "That's the real payoff that I see here. As far as quantum cryptography is concerned, I'm entirely unimpressed."
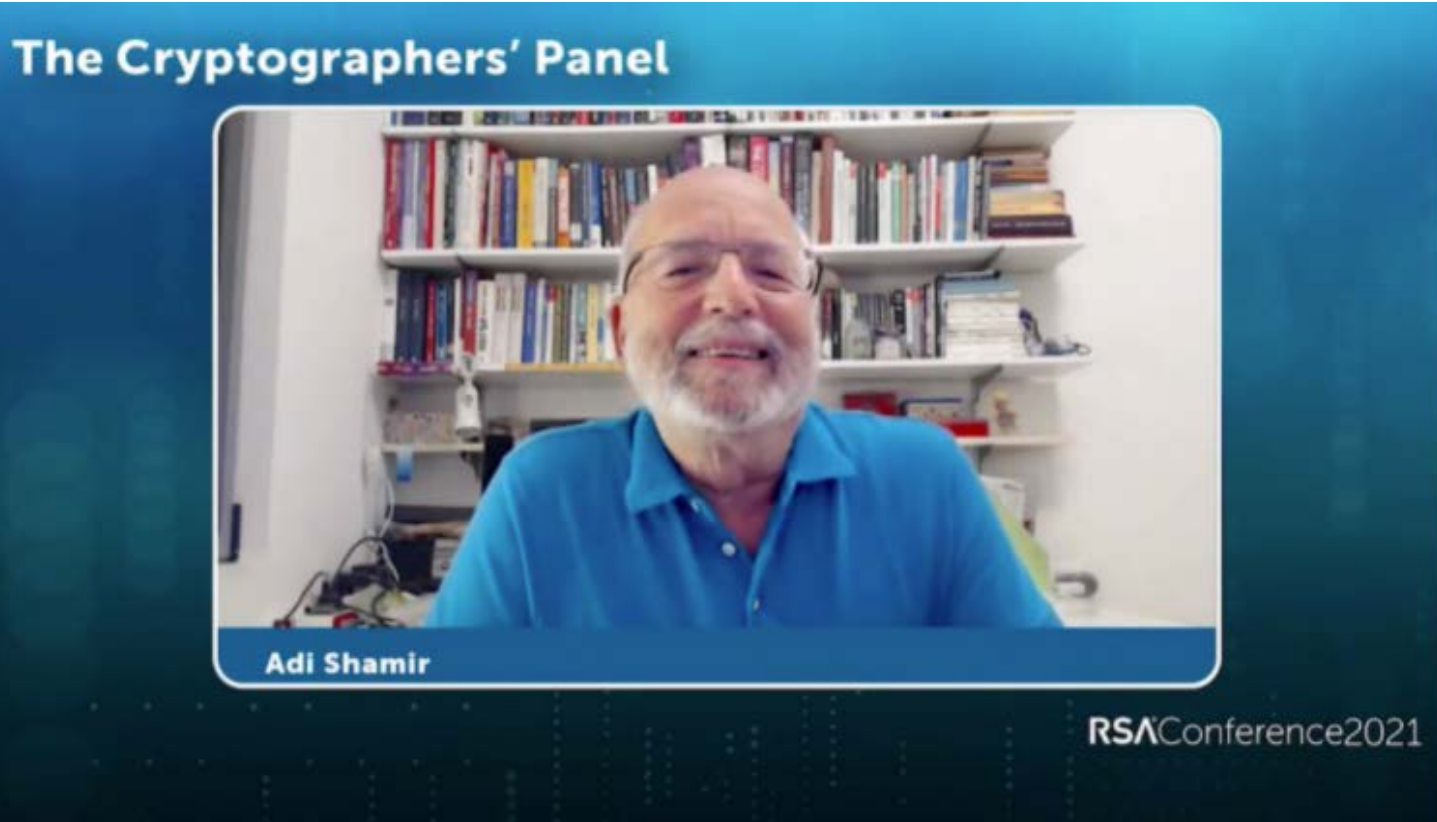
Adversarial Machine Learning

You can build machines, but should you trust them?

Adoption of machine learning continues, but Ramzan said one persistent challenge has been trying to build machine-learning systems that work at scale and can perform reliably - and in a trustworthy manner - even under adversarial conditions, for example, when enemies or criminals might be trying to subvert them.

Troncoso said machine learning typically involves balancing four dimensions: robustness, to protect against attacks; fairness, so the system doesn't side with anyone unfairly; explainability, so everyone knows what's going on; and being privacy-preserving.

Unfortunately, she said, "more and more results ... indicate that these four dimensions may not be compatible." For example, increasing privacy may compromise robustness.

In the bigger picture, she also warned that it's not clear that organizations operating machine-learning models should be trusted to hold the data, because it's unclear what that might enable them to do. Perhaps the question, she said, "is not, 'Can we make the machine trustable,'" but rather for anyone who runs such systems: Are we "going to trust with them" with whatever course of action and business model they might pursue?

Can machine learning at scale ever be made trustworthy? "At a high level, complexity is the enemy of security, so the more complicated you make a system, the more vulnerable it becomes to all kinds of faults and penetrations, and machine learning is nothing but complicated," Rivest said. "I mean, it's very, very complicated, with millions of parameters. So it violates one of the basic tenants of security to start with. And then we get into the details."


SolarWinds: Lessons Learned

In the wake of the SolarWinds supply chain attack discovered last December, what can be done to improve the security of the supply chains?

Anderson said that IT shops might use products from hundreds or thousands of vendors, which is one problem. Another challenge: "SolarWinds was a mature company. Once upon a time, it was a keen startup with lots of lively engineers, but recently it had become a monopoly, and much of the technical expertise had been farmed out to engineers in Eastern Europe. And so they weren't caring as much about security as they used to. In essence, the company was being run by bankers as a cash cow."

Cue his recommendation for IT shops when they do due diligence, which he says is something too few do well: "Ask yourself about the culture and the ownership and the competence of all those suppliers who have got stuff within your security perimeter."
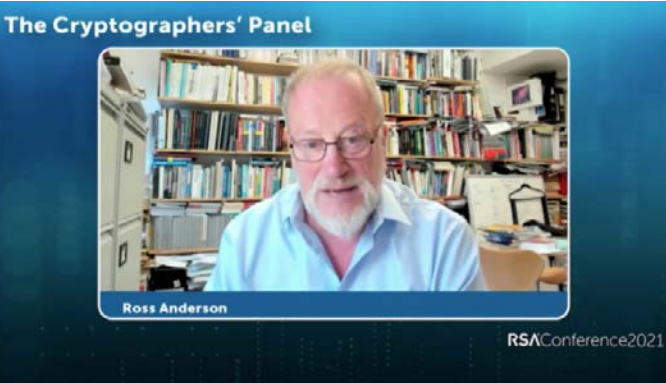
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