DevSecOps and Zero Trust Architecture in Multi-Cloud

Tetrate

*MC: **Dr. Michaela Iorga**, Senior Security Technical Lead, NIST*

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Dr. Michaela Iorga serves as senior security technical lead for cloud computing with the National Institute of Standards and Technology (NIST), Computer Security Division. She also leads the Open Security Controls Assessment Language (OSCAL) project and chairs the NIST Cloud Computing Public Security and Forensics Working Groups. Having previously served in a wide range of consulting positions in both, government and private sector industries, Dr. Iorga has a deep understanding of cybersecurity, risk assessment and information assurance for cloud, fog and IoT systems. In her role at NIST, Dr. Iorga supports the development and dissemination of cybersecurity standards and guidelines that meet national priorities and promote American innovation and industrial competitiveness. Aligned with NIST's mission, Dr. Iorga's work particularly focuses on collaborating with industry, academia, and other government stakeholders on developing a high-level, vendor-neutral cloud, fog and IoT security and forensics guidance. Dr. Iorga received her Ph.D. from Duke University in North Carolina, USA.

Dr. Michaela Iorga

Varun Talwar is the Founder and CEO of Tetrate. He was the founding product manager on gRPC and co-founder of the open source Istio project at Google. Both open projects that he started are widely adopted in industry today for connecting, securing and managing microservices by web scale companies, large enterprises and SMBs. He has been a regular speaker at Open Source, cloud and security conferences. Prior to Google Cloud where he started these projects, he spent 8 years at Google and led product and partnerships at YouTube and Google Maps.

Last year he gave the keynote for this conference at NIST about trusting cloud native applications. I am happy to welcome him back as keynote speaker for this year.

Varun Talwar

Ron Ross is a Fellow at the National Institute of Standards and Technology. His focus areas include computer security, systems security engineering, trustworthy systems, and security risk management. Dr. Ross currently leads the NIST Systems Security Engineering Project which includes the development of standards and guidelines for the federal government, contractors, and United States critical infrastructure. He also supports the U.S. State Department in the international outreach program for cybersecurity and critical infrastructure protection. Dr. Ross previously served as the Task Leader for the Joint Task Force, an interagency group that includes the Department of Defense, Office of the Director National Intelligence, U.S. Intelligence Community, and the Committee on National Security Systems, with responsibility for developing a Unified Information Security Framework for the federal government. He also served as the project leader for the Federal Information Security Modernization Act (FISMA) Implementation Project and is the former Director of the National Information Assurance Partnership, a joint activity of NIST and the National Security Agency. During his twenty-year military career, Dr. Ross served as a White House aide and senior technical advisor to the Department of the Army. He has lectured at Stanford University, Massachusetts Institute of Technology, Dartmouth College, Pepperdine University, Naval Postgraduate School, Ohio State University, Auburn University, Hood College and gave the Commencement address at George Washington University (School of Engineering).

Dr. Ronald Ross

Dr. Ramaswamy Chandramouli

Dr. Ramaswamy Chandramouli is a Senior Computer Scientist at the Computer Security Division at National Institute of Technology (NIST) USA for over 20 years. His publications span diverse areas such as RBAC, Model-based Security Testing, Smart Card Specifications, DNS & Email Security, ABAC and Security Guidance for Hypervisor, Container and Service Mesh deployments. He is the co-author of 3 Technical books, 30 NIST publications and 37 peer-reviewed conference and journal publications.

Zack Butcher

Zack is a Founding Engineer at Tetrate and helps drive product today. He was one of the earliest engineers on the Istio project at Google, and currently sits as a community elected representative on the project's Steering Committee. He's written Istio: Up and Running as well as worked with NIST to co-author NIST SP 800-204a and NIST SP 800-204b, both relating to service mesh security. Before Tetrate, Zack worked at Google on Istio and across Google Cloud Platform on it's central resource hierarchy, service management, identity & access management systems, as well as Google's internal mesh that Istio draws from.

Dr. Zulfikar Ramzan

As Chief Digital Officer, Dr. Zulfikar Ramzan leads RSA IT, Security and Risk Office, Cloud Transformation Organization, Facilities, and RSA Labs (RSA's forward leaning research and development organization). In this capacity, Ramzan drives the digital journey for RSA, including the implementation of IT systems and processes, refining the organization's data architecture and connected flexible workplace strategy, managing digital risk for the organization, and developing cutting edge functionality across RSA"s product lines. He joined RSA in 2015 from Elastica (acquired by Blue Coat Systems), where he was CTO. Previously, he was Chief Scientist of Sourcefire (acquired by Cisco) and, before that, Chief Scientist of malware analytics company Immunet (acquired by Sourcefire). Ramzan holds more than 50 patents and a Ph.D. in electrical engineering and computer science from MIT. His doctoral advisor was Professor Ronald L. Rivest, co-founder of RSA Data Security.

Nicolas M. Chaillan

Mr. Nicolas Chaillan, a highly qualified expert, is appointed as the first Air Force Chief Software Officer, under Dr. William Roper, the Assistant Secretary of the Air Force for Acquisition, Technology and Logistics, Arlington, Virginia. He is also the co-lead for the Department of Defense Enterprise DevSecOps Initiative with the Department of Defense Chief Information Officer. As the Air Force's senior software czar, Mr. Chaillan is responsible for enabling Air Force programs in the transition to Agile and DevSecOps to establish force-wide DevSecOps capabilities and best practices, including continuous Authority to Operate processes and faster streamlined technology adoption.

The Chief Software Officer works with the Program Executive Officers and is responsible for analyzing current software and cloud migration plans to avoid vendor lock-ins while allowing for rapid prototyping and a streamlined process for deployment. To keep up with the pace of technology, Mr. Chaillan evaluates and authorizes new commercially available off-the-shelf software and cloud-related technologies to help with their adoption across various Air Force programs based on their mission needs.

Prior to his current position, Mr. Chaillan was the Special Advisor for Cloud Security and DevSecOps at the Department of Defense, OSD, A&S and Special Advisor for Cybersecurity and Chief Architect for Cyber.gov at the Department of Homeland Security. He designed the new robust, innovative and holistic .Gov cybersecurity architecture (Cyber.gov), that mitigates cyber threats by leveraging best practices and implementable solutions with minimal impact to workforce efficiency.

In addition to his public service, Mr. Chaillan is a technology entrepreneur, software developer, cyber expert and inventor. He has over 19 years of domestic and international experience with strong technical and subject matter expertise in cybersecurity, software development, product innovation, governance, risk management and compliance. Specifically, these fields include Cloud computing, Cybersecurity, DevSecOps, Big Data, multi-touch, mobile, IoT, Mixed Reality, virtual reality and wearables.

Adam Zwickey

Adam is a solutions engineering leader at Tetrate. Prior to Tetrate, Adam worked as a Field Principal for VMware's Modern Application Platform business unit. His focus for nearly the past decade has been helping Global 2000 companies modernize their infrastructure platforms and adopt cloud native application architectures. In the past Adam has presented on modern application development at various conferences such as SpringOne.
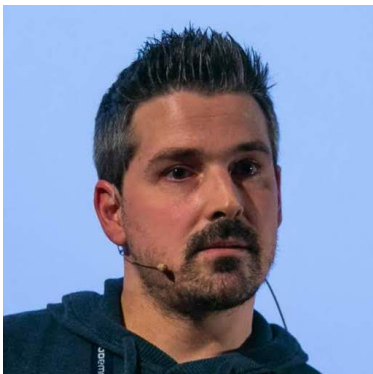
Ignasi Barrera

Ignasi has been building hybrid multi-cloud platforms and SDN solutions for more than 9 years. He is a long-term open source contributor and in 2015 he became a Member of the Apache Software Foundation, where he mentors new projects in the Incubator and helps with community development activities and the promotion of open source. In 2018 he joined Tetrate as a founding engineer where he works on service mesh and multi-cloud security.

Joshua Roberts

Joshua Roberts is a computer scientist at NIST. He started as an intern in 2013 and has been working on NGAC ever since. He is currently the lead engineer on NIST's reference implementations and other NGAC focused projects. Under a CRADA agreement with Tetrate, Josh has contributed to their NGAC implementation.


Andrew Weiss

Andrew is the lead architect and technical advisor to the University of Maryland, Baltimore County as it seeks to demonstrate the feasibility of its research in permissioned blockchain technologies in highly-regulated industries. He has extensive federal solutions engineering experience spanning industry and academia. Andrew is also an active participant in the standards development ecosystem. He has previously collaborated with NIST on the early development of the Open Security Controls Assessment Language (OSCAL) and has developed and open sourced memory-safe Rust implementations of various standards including the IETF's Concise Data Definition Language (CDDL) and ANSI/INCITS's Next Generation Access Control framework (NGAC).

Kevin Paige

Kevin Paige is Chief Information Security Officer at Flexport, provider of the Operating System for Global Trade. In this capacity he focuses on a security lead approach focused on mitigating risk to the business. His responsibilities include Information Security, Product Security, Security Operations, Physical Security, Infrastructure Engineering and Information Technology.

Kevin brings over 25 years of information technology and security leadership with expertise in delivering solutions that optimize security, compliance and technical operations for both the private and public sectors. Previously, Kevin served as the Chief Information Security Officer of MuleSoft, provider of the leading platform for building application networks, and helped lead the company to acquisition by Salesforce. Kevin's public sector experience includes serving 12 years in the U.S. Air Force, and 4 years as a civil service employee supporting the Deputy Under Secretary of the Army - Business Transformation. Kevin holds a MS in Computers and Information Systems from Boston University and a BS in Information Technology from the University of Phoenix.
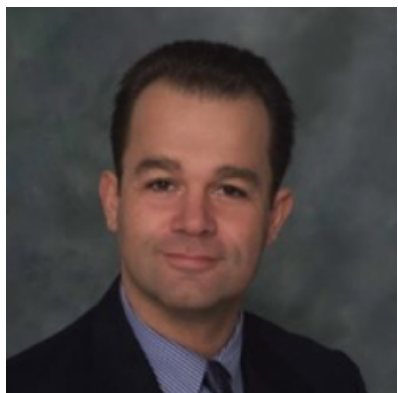
Dr. André Mendes

André Mendes was appointed Chief Information Officer for the Department of Commerce in August of 2019. There, he has overall responsibility and oversight of all technology systems at the United States Department of Commerce (DOC) and its associated Bureaus (FY2020 Budget $3.8B).

Before, Mr. Mendes was responsible for all global technology platforms and systems for the International Trade Administration (ITA), the DOC bureau that manages global trade issues for the United States of America. There Mr. Mendes oversaw a rapid bureau-wide transformation effort making ITA the first Federal Agency/Bureau to be 100% cloud based, radically changing several workflows, enabling a massive scale-up of service provisioning quality, an unprecedented rise in employee morale and job satisfaction while also lowering overall operating costs to less than 11% of ITA's appropriation.

Prior to ITA, Mr. Mendes spent eight years at the U.S. Agency for Global Media (USAGM) in various executive roles; including CEO, COO, CIO, CTO and CFO. During his time at USAGM, Mr. Mendes managed overall Agency transformation

generating over $360 million in savings from 2010 through 2018 through aggressive global technology and facilities optimization with projected 10-year savings in excess of half a billion dollars ($503M). In that timeframe, global weekly audiences grew 78% (165-278M), all while reducing technology and front office staff by over 22%. Mr. Mendes has also held CXO positions at Special Olympics International, PBS, Pluvita, MRL Pharmaceuticals, USAssist and General Health Inc.

Dr. Sorin Nastea

Dr. Sorin Nastea is Associate Director for Informatics Architecture in the Food and Drug Administration's Center for Drug Evaluation and Research (CDER), Office of Strategic Planning. Dr. Nastea has had a long career in IT and related engineering fields in industry, research, academia and now in the Federal Government. Before joining the FDA in September 2019, Dr. Nastea worked for IBM for over 20 years, in Federal Government projects with the U.S. Census Bureau, NIH and FDA, as well as in internal IBM systems and projects. As Chief Architect, Dr. Nastea and his team built the Census Bureau's American FactFinder system, Census' premier data dissemination system over two decades, in two major implementations. Also, Dr. Nastea oversaw the building of the Census Bureau's tabulation systems, for the Decennial Census (2000 and 2010) final data preparation before public dissemination. With NIH, as contractor Lead Architect, Dr. Nastea oversaw the modernization of the "electronic Research Administration" (eRA), the NIH's grants management system, including the migration from Oracle Forms to J2EE and the eRA's integration with grants.gov for grants submission via web services. Dr. Nastea started with FDA as an IBM contractor, later transitioning in his current employee position. Dr. Nastea and his colleagues in CDER work in numerous projects and initiatives to modernize and streamline the CDER regulatory review capabilities to help the Center better fulfill its mission, with cloud implementations; process automation; workflow management; analytics and data management; architecture and data governance; AI/ML, etc. Before IBM, Dr. Nastea taught Computer Science and Engineering at Tuskegee University, AL and at his Alma Matter, the Polytechnic University in Bucharest.

James Younger

James Younger is an information system security professional with 15+ years of information technology experience supporting government agencies and commercial partners. Most recently, James leads the information security team supporting engineering, system accreditation and security related research and development activities for the DHS S&T research activities. As a IT security professional, James strives to be known as the guy who says doesn't just say "no" but rather works to find solutions that remain security compliant and effective. His experience has led to working with "Big Data", AI, ML, cloud-computing and most recently zero-trust architectures. James was a recipient of the DHS Under Secretary's Award as a member of a collaborative team with DHS S&T. In his spare time James enjoys working at his charcoal grill and rooting for Boston sports teams.