

CHARTING THE COURSE THROUGH DISRUPTION

—
J.R. SANTOS, CHIEF CUSTOMER OFFICER

CSAAPAC
Congress 2019

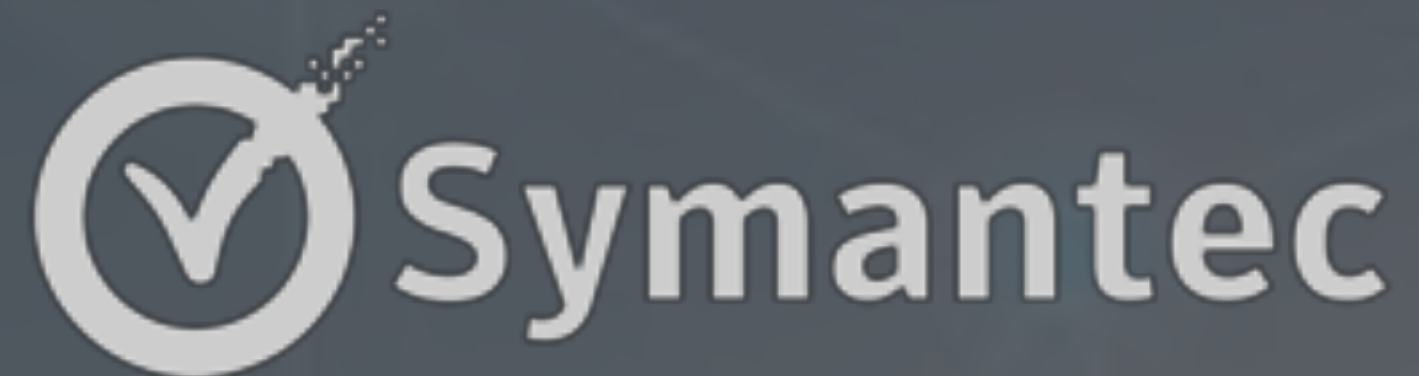
OCTOBER 22, 2019





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21B

IOT CONNECTED DEVICES BY 2025

A quick look back shows where IoT devices are going. Consider: In 2016, there were more than 4.7 billion things connected to the internet, according to IOT Analytics. Fast-forward to 2021? The market will increase to nearly 11.6 billion IoT devices.



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Quis nostrud exercitation.





\$ 6 T R I L L I O N

WHAT CYBER CRIME IS EXPECTED TO COST IN 2021

[Cyber crime is expected to cost the world \\$6 trillion by 2021](#), up from \$3 trillion in 2015. This includes damage and destruction of data, stolen money, lost productivity, theft of intellectual property, theft of personal and financial data, embezzlement, fraud, post-attack disruption to the normal course of business, forensic investigation, restoration and deletion of hacked data and systems, and reputational harm.



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Forbes

com

THE CYBERSECURITY REGULATORY CRACKDOWN

So where companies are lagging, federal, state and local governments are all stepping it up. The first regulation that shocked the cybersecurity world was [GDPR](#), not so much by its depth (although it is thorough), and not by its breadth (it will impact not just European companies, but any companies that do business in Europe) -- but because of its penalties, [the steepest](#) seen so far. Enterprises are likely scrambling to understand the ramifications, but rather than calling in cybersecurity vendors to help them comply with GDPR, they've rallied their attorneys to understand their potential liability.

GDPR

CALIFORNIA CONSUMER PRIVACY ACT



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COLLEGE GRADUATES LACK THE SKILL
AND EXPERIENCE

EXISTING EMPLOYEES CAN'T KEEP UP
WITH THE CHANGES IN OUR INDUSTRY



3.5 MILLION
CYBER SECURITY
PROFESSIONALS
NEEDED BY 2021

“Cybercrime will more than triple
the number of job openings over
the next 5 years”

- Steve Morgan, Editor in Chief





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EMEA HEADQUARTERS

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PACIFIC
HEADQUARTERS



LET'S NOT RE-INVENT
THE WHEEL

INDUSTRY COLLABORATION



FORMAL:

- ISO/IEC JTC 1 – IT AND CLOUD SECURITY TECHNIQUES
- ITU-T – PROCEDURES AND STANDARDS IN TELECOM
- IEEE – CYBERSECURITY AND PRIVACY STANDARDS COMMITTEE
- NIST – CLOUD SECURITY WORKING GROUP
- FCC - TECHNOLOGICAL ADVISORY COMMITTEE ON IOT
- DISA DODIN (GIG) – CLOUD COMPUTING SERVICES GUIDANCE
- DOD IC - CLOUD COMPUTING STANDARDS FOCUS GROUP
- ATIS - PACKET TECHNOLOGY AND SYSTEMS COMMITTEE ON 5G
- CIS – CLOUD SECURITY BENCHMARKS
- CLOUD SECURITY INDUSTRY SUMMIT – EXECUTIVE COUNCIL OF CLOUD
- ENISA – EU FUNDED RESEARCH ON RISK, INTEROPERABILITY, SLAS, AND MORE
- ISC2 – TRAINING AND EDUCATION PARTNER FOR CLOUD SECURITY CERTIFICATION
- ISACA – CONTINUING EDUCATION PARTNER FOR IT CERTIFICATION
- CSA CORPORATE MEMBERS – COMMISSIONED WORK TO EXPLORE TRENDING TOPICS
- AND MANY OTHERS

INFORMAL:

MPAA, SECURITY SMART CITIES, US FEDERAL HIGHWAY ADMINISTRATION, HIMSS, HC3, FFIEC, FDIC, OCC, EBA, MITRE AND MORE

CSA RESEARCH

26 ACTIVE PUBLIC WORKING GROUPS

ARTIFICIAL INTELLIGENCE

ICS SECURITY

BLOCKCHAIN & DISTRIBUTED LEDGER

INTERNET OF THINGS

CLOUD CYBER INCIDENT SHARING

KEY MANAGEMENT

CLOUD COMPONENT SPECIFICATIONS

MOBILE APPLICATION SECURITY TESTING

CLOUD CONTROLS MATRIX

OPEN CERTIFICATION FRAMEWORK

CLOUD SECURITY SERVICES MANAGEMENT

OPEN API

CONSENSUS ASSESSMENTS

PRIVACY LEVEL AGREEMENT

CONTAINERS & MICROSERVICES

QUANTUM SAFE SECURITY

DEVSECOPS

SECURITY AS A SERVICE

ENTERPRISE ARCHITECTURE

SOFTWARE DEFINED PERIMETER

ERP SECURITY

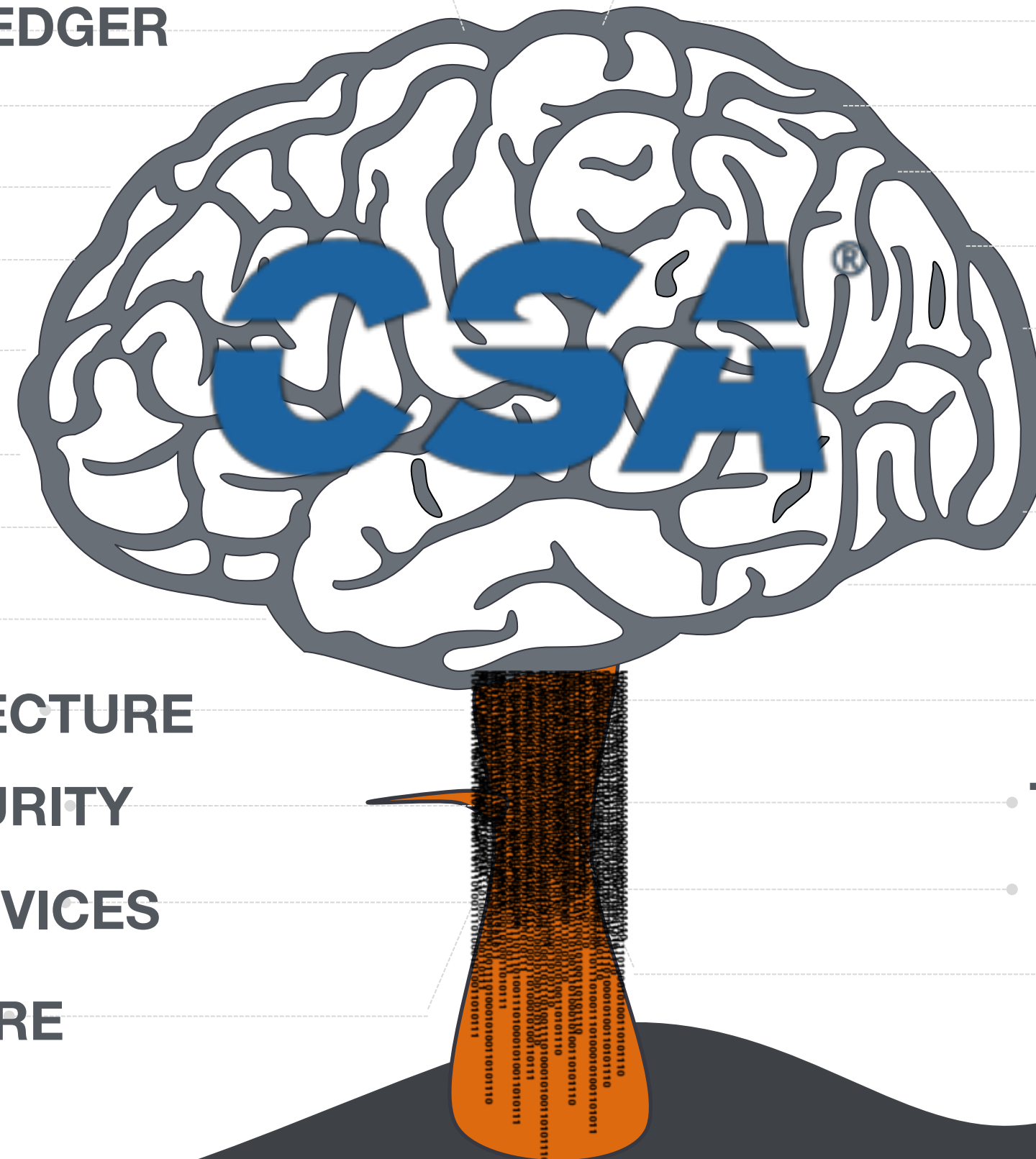
TOP THREATS

FINANCIAL SERVICES

INTERNATIONAL STANDARDS

HEALTHCARE

FRAUD & ABUSE



EDUCATION



THOUGHT
LEADERSHIP



TOOLS &
STANDARDS



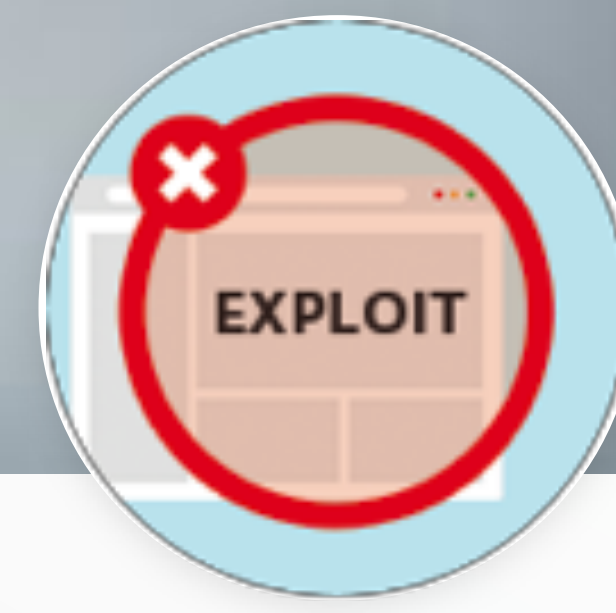
COLLABORATION



BEST
PRACTICES &
SOLUTIONS

IDEA!

SOLUTION



BLOCKCHAIN

ACTED AS A DIGITAL LEDGER FOR CRYPTOCURRENCY BUT CAN NOW BE APPLIED IN NEW USE CASES.

INTERNET OF THINGS

CREATING GUIDANCE AND SECURITY CONTROLS FOR NEW TYPES OF DEVICES, SYSTEMS, AND DATA.

DEV(SEC)OPS

STRIVES TO AUTOMATE SECURITY TASKS BY EMBEDDING SECURITY INTO THE DEVOPS WORKFLOW.

AI & MACHINE LEARNING

PROMISES TO TRANSFORM SOCIETY ON THE SCALE OF THE INDUSTRIAL REVOLUTION BEFORE IT.

QUANTUM SAFE SECURITY

ORCHESTRATION, INTEROPERABILITY, CONNECTIVITY AND ANALYTICS AT THE EDGE..

CVE FOR SERVICES

IDENTITY, ROLE BASED ACCESS CONTROL OVERLAY FOR THE CLOUD.

CCSK™

Certificate of
Cloud Security Knowledge

- Fundamental cloud security research that started CSA
- 4th version, released July 2017
- Significant enterprise lessons learned

DOWNLOAD at
WWW.CLOUDSECURITYALLIANCE.ORG/DOWNLOAD

SECURITY GUIDANCE

For Critical Areas of Focus
In Cloud Computing v4.0



CSA
Cloud Security Alliance

TOOLS FOR DUE DILIGENCE

CLOUD SECURITY CONTROLS



- COMMON FRAMEWORK FOR TECHNOLOGY, IS MANAGEMENT
- ASSESSES THE OVERALL SECURITY RISK OF A CLOUD SERVICE
- PROVIDES STANDARDIZED SECURITY, OPERATIONAL RISK MANAGEMENT
- HARMONIZES TO SECURITY STANDARDS AND COMPLIANCE FRAMEWORKS

PROVIDER ASSESSMENT QUESTIONS



- QUESTIONS TO ENABLE CLOUD COMPUTING ASSESSMENTS
- ESTABLISH THE PRESENCE AND TESTING OF SECURITY CONTROLS
- DISCOVER PRESENCE OF SECURITY CAPABILITIES AND GAPS
- DOCUMENT SECURITY CONTROLS IN IAAS, PAAS, SAAS

PROVIDER ASSESSMENT REPORTS



- PROVIDER LISTING OF SECURITY CONTROLS
- TRANSPARENCY, AUDITING, AND HARMONIZATION OF STANDARDS
- LEVEL OF ASSURANCE MEETING REQUIREMENTS
- INDUSTRY ACCEPTABLE

IOT SECURITY CONTROLS FOR THE ENTERPRISE



- A FLEXIBLE FRAMEWORK FOR IDENTIFYING RELEVANT SECURITY CONTROLS FOR IOT SYSTEMS
- USED SPECIFICALLY WITH LARGE SCALE ENTERPRISE IOT DEPLOYMENTS MAKING USE OF DIVERSE TYPES OF CONNECTED DEVICES

NOTABLE RESEARCH ARTIFACTS RELEASED IN 2019

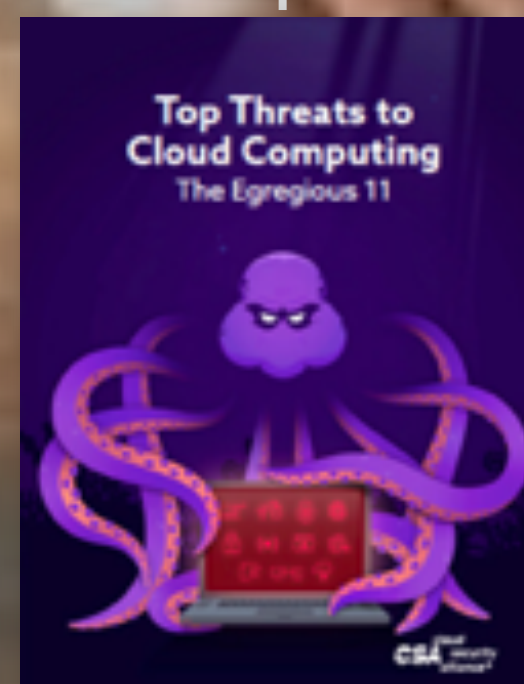
SINCE JANUARY THE CSA
RESEARCH TEAM
PUBLISHED OVER **44**
RESEARCH ARTIFACTS YTD



SIX PILLARS OF DEVSECOPS



SOFTWARE DEFINED PERIMETER
ARCHITECTURE GUIDE V2



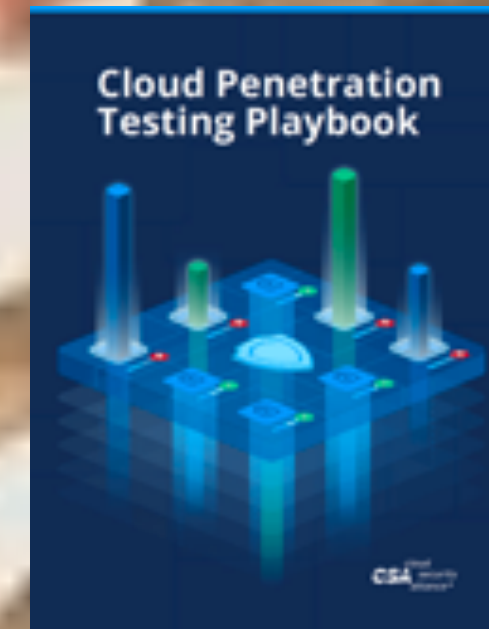
TOP THREATS TO CLOUD COMPUTING

NOTABLE RESEARCH ARTIFACTS RELEASED IN 2019

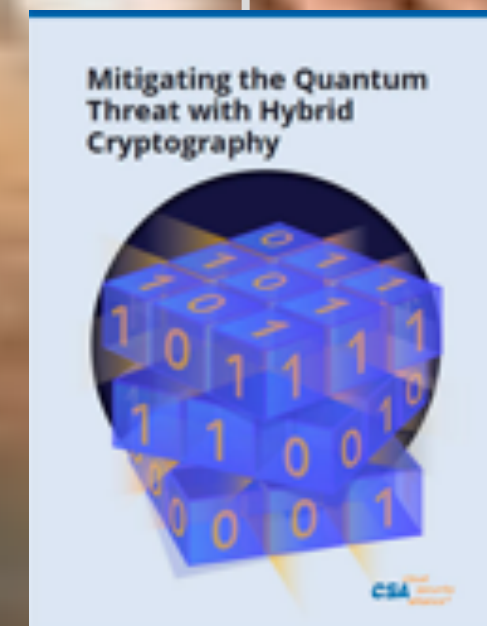
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BEST PRACTICES FOR IMPLEMENTING A
SECURE APPLICATION CONTAINER
ARCHITECTURE



CLOUD PENETRATION TESTING PLAYBOOK



MITIGATING THE QUANTUM THREAT
WITH HYBRID CRYPTOGRAPHY

TRAINING & EDUCATION

- CERTIFICATE OF CLOUD SECURITY KNOWLEDGE (CCSK)
- CLOUD GOVERNANCE & COMPLIANCE (CLOUD CONTROLS MATRIX)
- CLOUDBYTES WEBINAR SERIES
- CLOUD SECURITY AUDIT INITIATIVE





LOCALIZATION EFFORTS



Henry Ford

“ COMING TOGETHER IS A
BEGINNING; KEEPING TOGETHER
IS PROGRESS; WORKING
TOGETHER IS SUCCESS ”

USEFUL CSA LINKS

CLOUD CONTROLS MATRIX (CCM)

<https://cloudsecurityalliance.org/group/cloud-controls-matrix/>

CONSENSUS ASSESSMENT INITIATIVE QUESTIONNAIRE (CAIQ)

<https://cloudsecurityalliance.org/group/consensus-assessments/>

CSA STAR (Security, Trust and Assurance Registry), Provider Assurance Program

<https://cloudsecurityalliance.org/star/>

CSA CloudBytes Channel

https://cloudsecurityalliance.org/research/cloudbytes/#_overview

STARWatch

<https://cloudsecurityalliance.org/star/watch/>

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THANK YOU!



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