

Bootstrap Your Startup's Security

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Add security to everyone's job.

Make security enhance operations.

Use security as a competitive advantage.

30 min presentation + 30 min discussion



Ransomware attack through online billing

SUBMITTED 06-20-2017 00:59

ENCLAVE



SECTOR

EDUCATION

TAGS

[+ MANAGE](#)

Content

IOCs (22)

Notes (0)

subsidiary of <company-name> was recently hacked via the [locky](#) ransomware invoicing attack

ending emails with attached invoices to <email-address> will put those invoices in the queue for

the finance team. In this scenario, the <person> clicked on the email in the

was just another invoice and opened the zipped file attached. The zip con-

which further downloads second phase or phase 2 malware binary from a

encrypts your all files in local and network.

They use email addresses and subjects that will entice a user to read the e-

attachment. A very high proportion are being targeted at small and medium

 Filter by text... Filter by type

LABELS

UNDO

REDO

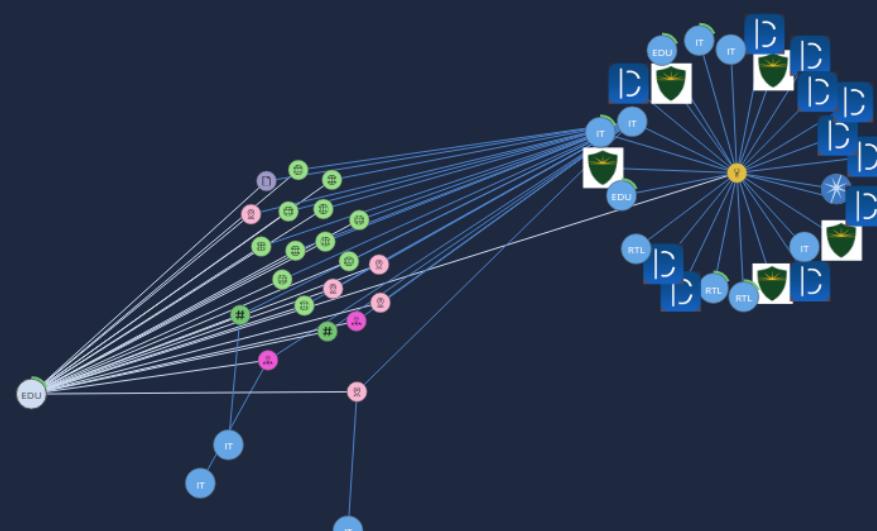
REFRESH

SAVE

DOWNLOAD

PREV

NEXT



Agenda

Add security to everyone's job.

Make security enhance operations.

Use security as a competitive advantage.

Add ...and its security to everyone's job description.

Chief Executive Officer

- Develop high-quality business strategies ensuring their alignment with short & long-term objectives
- Lead and motivate subordinates to advance employee engagement develop a high performing managerial team
- Maintain a deep knowledge of the markets and industry of the company.
- Oversee all operations and business activities to ensure they produce the desired results and are consistent with the overall strategy and mission
- Make high-quality investing decisions to advance the business and increase profits
- Enforce adherence to legal guidelines and in-house policies to maintain the company's legality, business ethics, **and its security**.
- Review financial and non-financial reports to devise solutions or improvements
- Build trust relations with key partners and stakeholders and act as a point of contact for important shareholders
- Analyze problematic situations and occurrences and provide solutions to ensure company survival, growth, **and its security**.
- Maintain a deep knowledge of the markets and industry of the company.

Director of Customer Success

- Manage relationships with key customer accounts at the technical and executive level across growing Fortune 500 customer companies (~25% travel).
- Architect and quarterback customer success at strategic accounts, driving intelligence exchange into security operations.
- Evangelize the TruSTAR product and lead strategic business development initiatives that align with your unique network and professional experience, namely in the technology sector and in the federal agency space.
- Recruit, train, and lead other members of the customer success team as we grow.
- Customer lifecycle management experience from inception through all lifecycle stages **and its security**

Technical Account Manager

- Manage relationships with key customer accounts at the technical and executive level across growing Fortune 500 customer companies (~30% travel).
- Assist customers in architecting TruSTAR and intelligence exchange into their security operations and quarterback implementation and expansion across security teams.
- Collect qualitative feedback from customers through regular touch-points with their technical teams to get an in-depth understanding of their needs.
- Measure and report on quantitative metrics to help develop deeper understanding of engagement levers and leading indicators of customer success.
- Advocate for customer needs **and its security** inside company and assist in translating feedback into product requirements.
- Evangelize the TruSTAR product and lead strategic business development initiatives that align with your unique network and professional experience, namely in the technology sector and federal agency space.

Junior Account Manager

- Assist with management of key customer accounts across growing Fortune 500 customer companies.
- Ensure that customers have platform access, manage targeted customer communications, and resolve minor technical challenges.
- Collect qualitative feedback from customers through regular touch-points with their technical teams to get an in-depth understanding of their needs.
- Measure and report on quantitative metrics to help develop deeper understanding of engagement levers and leading indicators of customer success.
- Advocate for customer needs **and its security** inside company and assist in translating feedback into product requirements.

Account Executive, Sales

- Demonstrate product and new features to help drive engagement with new and existing customers.
- Manage engagement with new target customer accounts
- Collect qualitative feedback from users and quantitatively track engagement across new feature sets.
- Translate customer feedback into engineering requirements and product feature specifications.
- Research market trends and competition and develop competitive analyses to deliver differentiated product features and capabilities.
- Represent TruSTAR at external venues, conferences, and forums to promote the TruSTAR product **and its security**.
- Manage specific product development and analytics prototyping tasks **and its security**.
- Provide insightful strategic analysis to the community of TruSTAR users on security trends.

Chief Operating Officer

- Design and implement business strategies, plans, procedures **and its security**.
- Set comprehensive goals for performance and growth.
- Establish policies that promote company culture and vision
- Oversee daily operations of the company and the work of executives (IT, Marketing, Sales, Finance etc.)
- Lead employees to encourage maximum performance and dedication
- Evaluate performance by analyzing and interpreting data and metrics
- Write and submit reports to the CEO in all matters of importance
- Assist CEO in fundraising ventures
- Participate in expansion activities (investments, acquisitions, corporate alliances etc.)
- Manage relationships with partners/vendors

Communications & Content Marketing Lead

- Work with the leadership team to develop and manage an editorial calendar for content, social media and events **and its security**.
- Quickly draft content and synthesize feedback from others to develop polished content to promote across earned and owned channels.
- Analyze, track, and measure success against clear targets and KPIs and provide routine reporting to leadership for use in strategic planning sessions and investor/board meetings.
- Coordinate TruSTAR speaking and event strategies-developing content and supporting materials.
- Manage outreach to industry influencers and journalists to push TruSTAR messaging, content, and leadership vision.
- Own the website and external facing social channels to ensure we are staying edgy, while maintaining consistency of concept and messaging.
- Collaborate with the product team to stay abreast of product challenges, opportunities **and its security** as we grow.

Fraud Intelligence Lead

- Manage TruSTAR's initial fraud-oriented customers (eg. Fraud Team @ Fortune 50 company) liaising between customer success and product development to architect TruSTAR into their workflow - balancing automation and human investigative cycles
- Expand the Cloud Fraud Intelligence Exchange (Google, AWS, MSFT, Rackspace, IBM, Swisscom, 181, and more) to additional members, **and its security**, sharing real data in real-time.
- Develop and manage a fraud go-to-market strategy working closely with leads from business operations, product, and customer success.
- Manage execution of the fraud go-to-market strategy **and its security**, coordinating across business operations, marketing, sales, and product.
- Measure and report on success of fraud business **and its security** across executive team with board-level visibility.

Operations & Administration

- Coordinate with hiring managers to ensure new hires are welcomed and their 1st day experience is maximized.
- Manage interview schedule coordination across key leadership as the team grows.
- Coordinate special events and team activities at TruSTAR HQ and elsewhere ensuring they are delivered on budget and they promote a fun and connected culture.
- Assist in managing the day-to-day calendars of the co-founders to ensure their time is maximized and deconflicted.
- Apply a critical eye to our brand new space and help design and organize layout in a way that drives collaborative culture.
- Manage budget and vendors for all office supplies, snacks, food, special events, and team activities.
- Hire and manage all 3rd party office services staff with a focus on accountability and professionalism of our work environment **and its security**.
- Ensure cross-functional feedback on the work environment we've created, and deliver recommendations to the executive team on how to continue adapting TruSTAR's home.

Lead Data Scientist

- Work closely with a product engineering team to identify and answer important product questions.
- Work closely with software engineers to extend the functionality of the Extract Transform and Load (ETL) process **and its security**.
- Answer product questions by using appropriate statistical techniques on available data.
- Communicate findings to product managers and engineers.
- Drive the collection of new data and the refinement of existing data sources **and its security**
- Analyze and interpret the results of product experiments.
- Develop best practices for instrumentation, experimentation, **and its security** and communicate those to product engineering teams.

Director of Engineering

- Manages the entire engineering department overseeing resources, staffing, and the enhancement and maintenance of a first-class team.
- In charge of the management and execution of site/software project plans and delivery commitments.
- Leads the development teams with a focus on technologies inclusive of HTML, JavaScript, CSS, and Java.
- Manages the technical integrations and relationships with internal and external stakeholders.
- Drives the strategy, architecture, and development of the business's site/software solutions **and its security**.
- Organizes activities for the development, implementation, release, and maintenance of projects necessary for site/software development and sustenance
- Takes initiative to explore, evangelize, and implement innovative technologies within the business in order to improve the business's internal platforms, **and its security**, as well as customer experience.

Head of Product

- Work closely with a product engineering team to identify and answer important product questions
- Work closely with software engineers to extend the functionality of the Extract Transform and Load (ETL) process **and its security**.
- Answer product questions by using appropriate statistical techniques on available data.
- Communicate findings to product managers and engineers
- Drive the collection of new data and the refinement of existing data sources **and its security**.
- Analyze and interpret the results of product experiments
- Develop best practices for instrumentation, experimentation, and its security and communicate those to product engineering teams.

Frontend Software Engineer

- Architect, build, and maintain critical software components **and its security** across the entire TruSTAR product stack within a highly-secure data processing environment.
- Own major product development initiatives **and its security**, such as security data analytics, correlation, third-party integrations, and anonymous collaboration.
- Develop REST APIs **and its security** for customers to securely share and ingest semi-structured cyber threat intelligence.
- Work closely with TruSTAR co-founders, the Director of Engineering, and the rest of the product development team to advance the product roadmap.
- Provide DevOps support for production services **and its security** in cloud infrastructure using modern tools and frameworks.
- Mentor junior engineers and help grow the technical team **and its security**.

Backend Software Engineer

- Architect, build, and maintain critical software components **and its security** across the entire TruSTAR product stack within a highly-secure data processing environment.
- Own major product development initiatives **and its security**, such as security data analytics, correlation, third-party integrations, and anonymous collaboration.
- Develop REST APIs **and its security** for customers to securely share and ingest semi-structured cyber threat intelligence.
- Work closely with TruSTAR co-founders, the Director of Engineering, and the rest of the product development team to advance the product roadmap.
- Provide DevOps support for production services **and its security** in cloud infrastructure using modern tools and frameworks.
- Mentor junior engineers and help grow the technical team **and its security**.

Infrastructure Engineer

- Manage the online infrastructure **and its security**.
- Support engineering team system provisioning, management, updates **and its security**.
- Develop infrastructure automation systems **and its security** to streamline day-to-day operations
- Manage centralized logging and monitoring systems **and its security**
- Establish and maintain the infrastructure's secret service **and its security**.
- Stay on top of new advances in infrastructure systems, automation, **and its security**.

Junior Data Science

- Apply Machine Learning to Indicator Extraction
- Machine Learning models for white listing of indicators.
- Present results of different machine model evaluations and provide recommendations.
- Natural Language Processing (NLP)
- Increase the accuracy of current Named-Entity Recognizer, by training, validating and testing new models.
- Investigate new algorithms and techniques
- Research and develop graph clustering and path finding algorithms.
- Assist in building out graph analytics playbooks **and its security**.

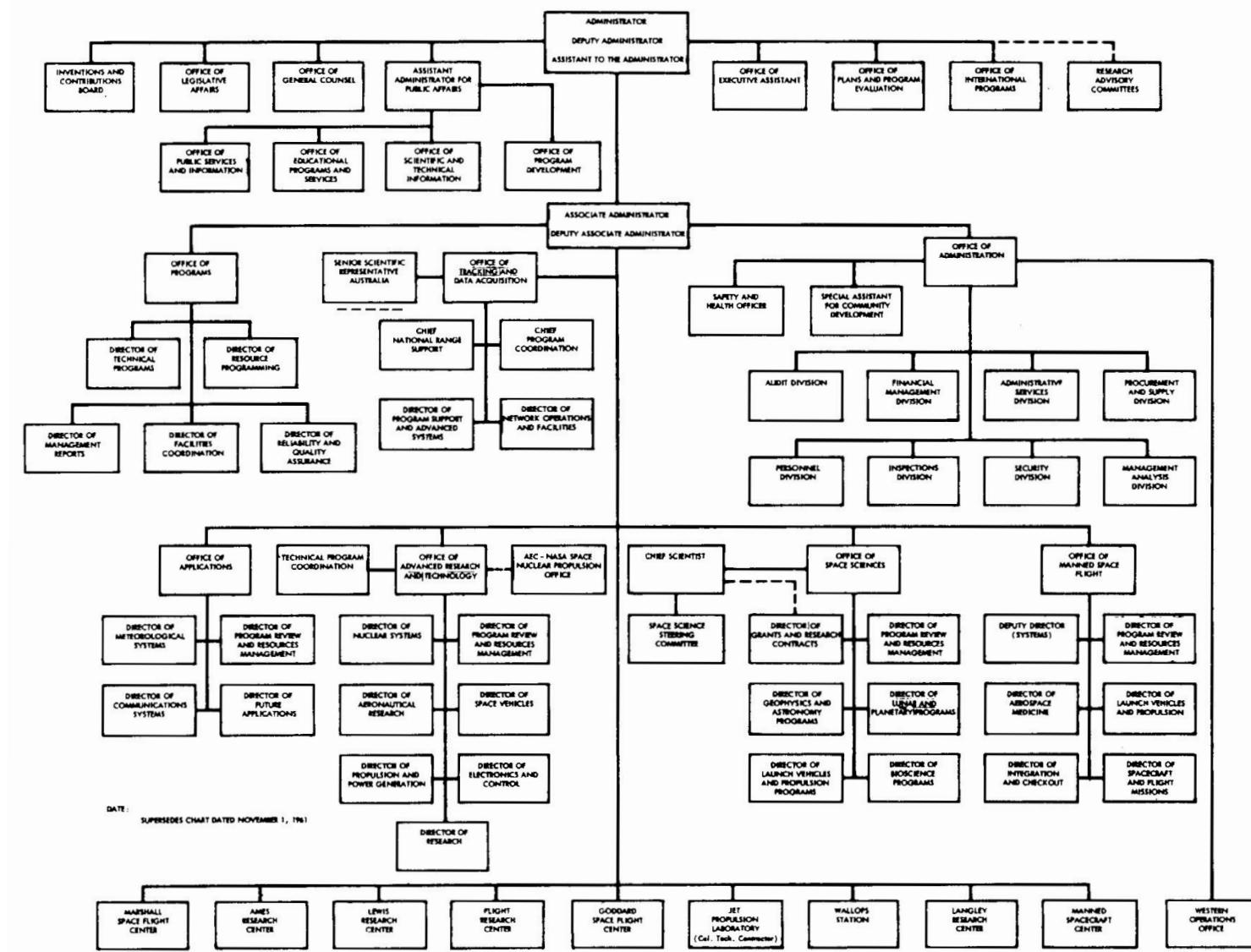


Subsidiarity

Delegate decision making authority to the smallest competent group.

EQUIFAX

Webserver Vulnerability → Missed Announcement → Compromised Database → 145 Million Customers





Ryan McGeehan

Jan 16, 2017 · 5 min read

You don't need a Chief Security Officer.

When hiring security leadership is a bad thing for a startup.

This guy
bootstrapped
Facebook's security.

I helped many young technology startups last year (2016) build security programs from scratch, or at least start approaching the subject. Many of them ask if they should hire a CSO or a “security lead”.

My observations are that it can be *harmful* to introduce dedicated security employees *too early* at a startup. This introduction of a specialized role to solve a horizontal problem will often cause early fragmentation and organizational debts.

Instead, startups do better off getting short term guidance from external expertise and tasking existing engineering talent with security projects.

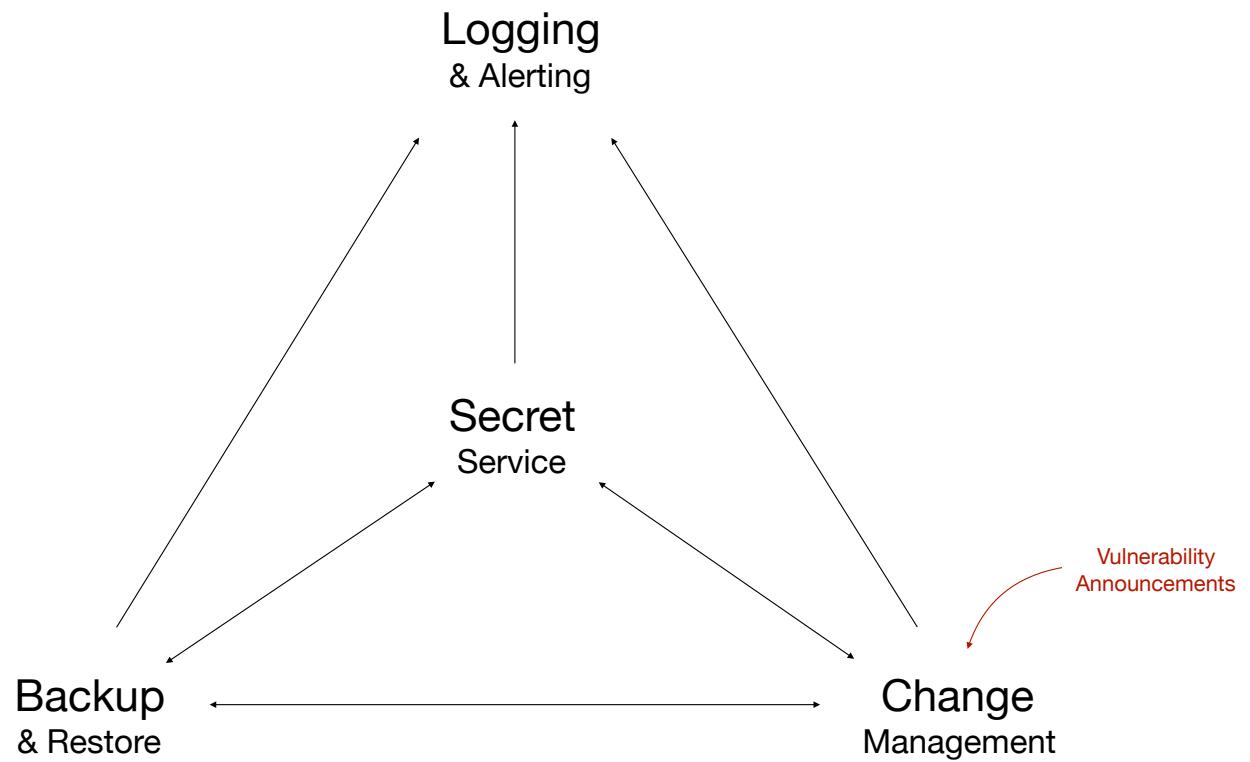
Make security enhance operations.

Principles

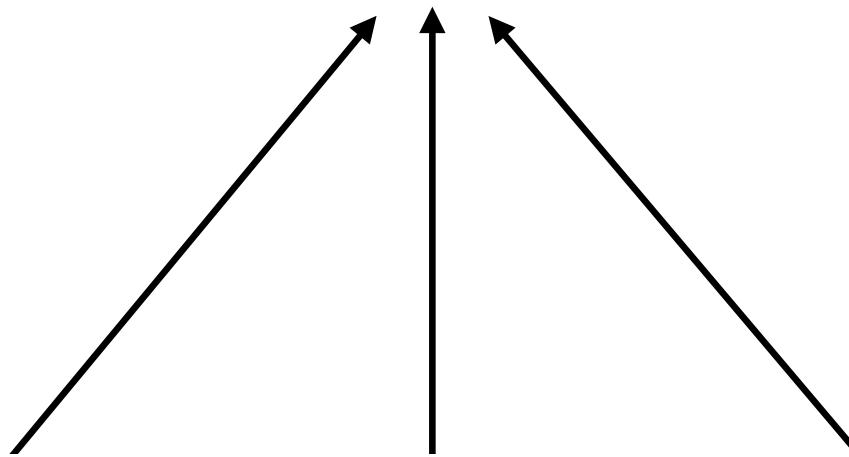
Simplify: Less is more.

The system should do *exactly*
what it needs to do and *nothing* else.

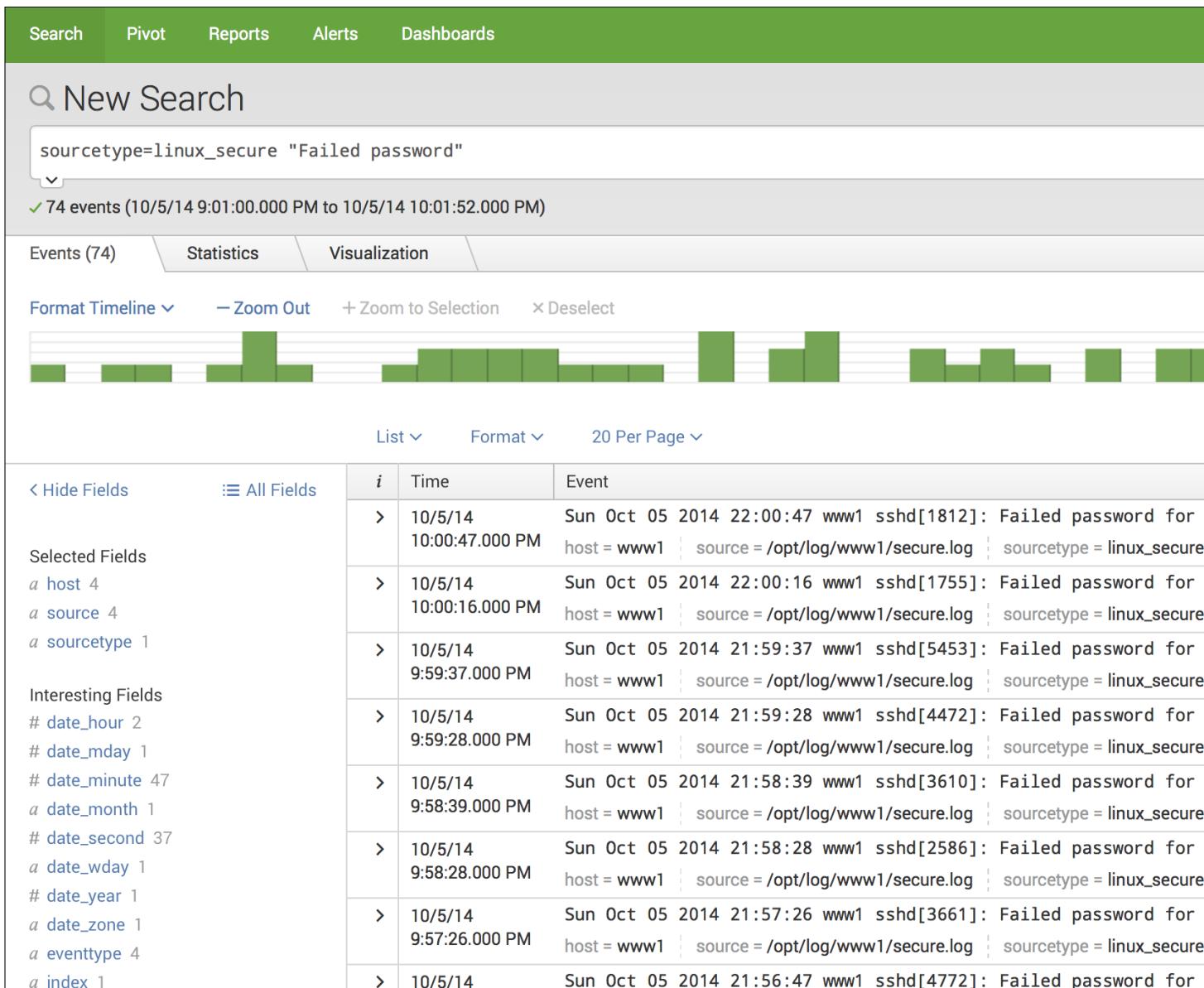
Infrastructure Services

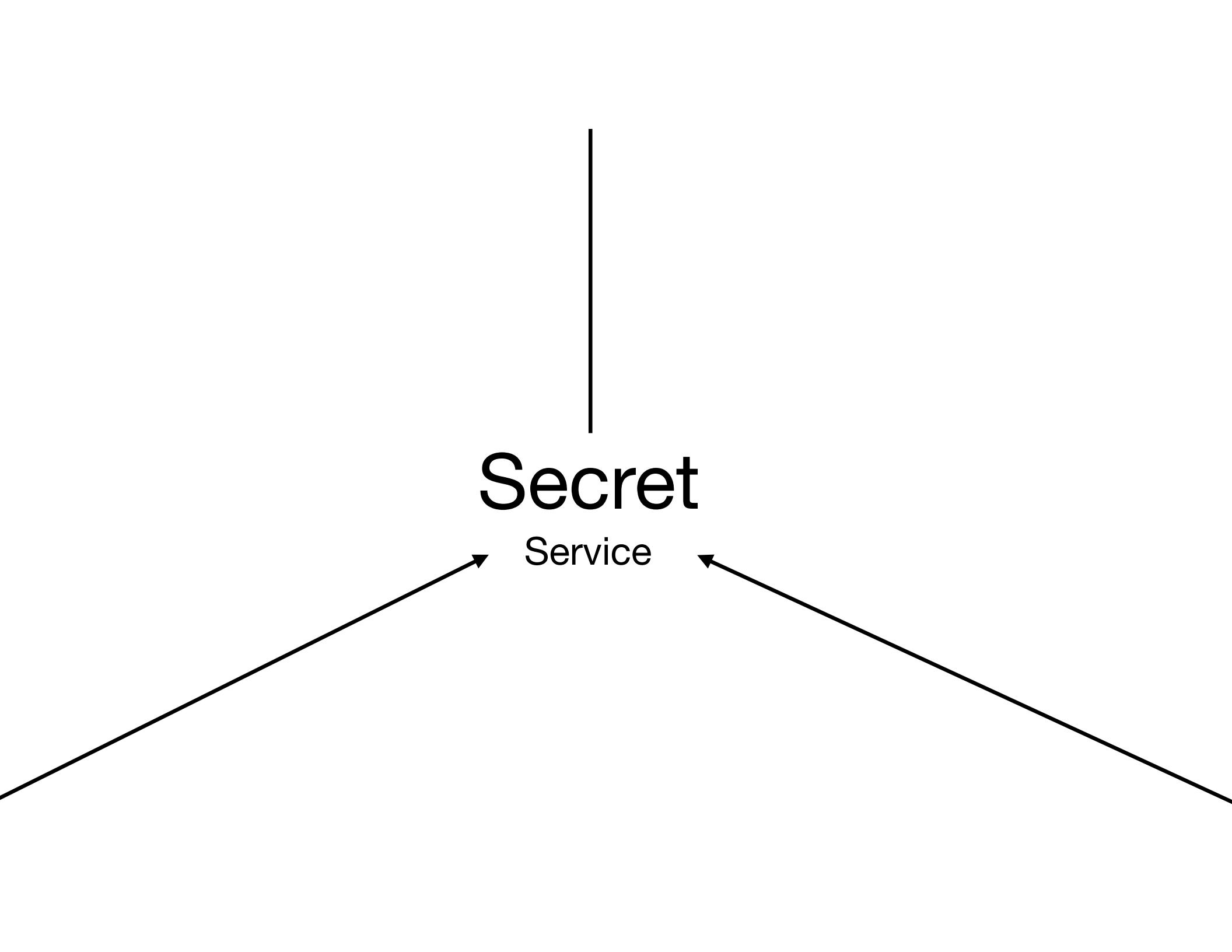


Logging & Alerting



Critical data hides
in the logs you
don't collect.





Secret

Service



All of Oculus's Rift headsets have stopped working due to an expired certificate

X

Lucas Matney Mar 7, 2018

 Comment

Update: After nearly a full day of downtime, the company has issued an official patch [here](#). More details on how to get your Rift up-and-running [here](#).

Someone at **Oculus** ● screwed up pretty badly today: An expired certificate appears to have soft-bricked all of the company's Rift VR headsets, with users still unable to fire up software on the devices and no word of an incoming fix from the company yet.



Backup
& Restore



6 million customers



Security keys & software



112,000 files



12,000 social media influencers



198 million voters



3 million fans



TigerSwan

9,400 resumes



123 million households



You take the test, we'll take it from there

150,000 patients

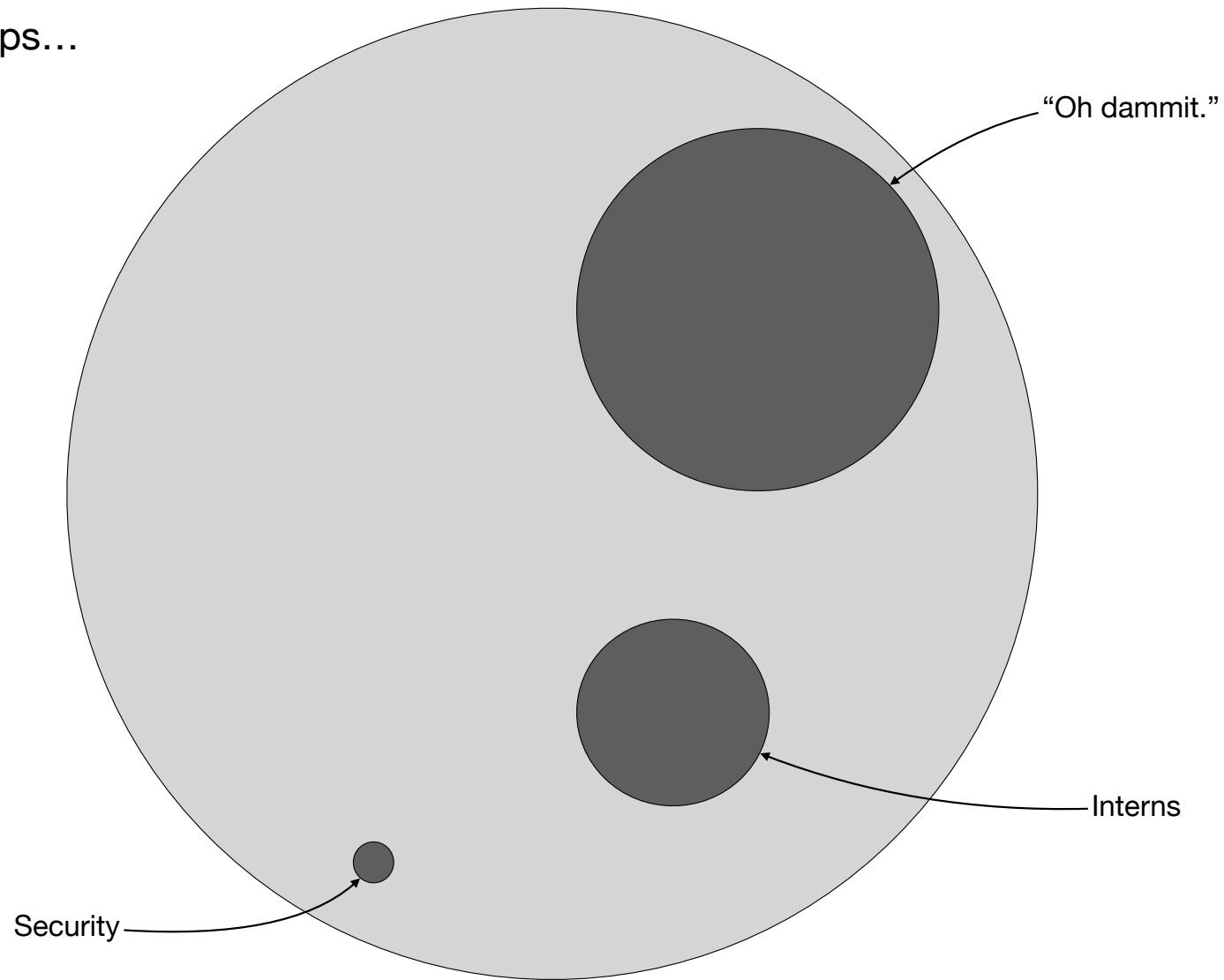


Verizon - <https://www.upguard.com/breaches/verizon-cloud-leak>
Octoly - <https://www.upguard.com/breaches/cloud-leak-octoly>
TigerSwan - <https://www.upguard.com/breaches/cloud-leak-tigerswan>

Accenture - <https://www.upguard.com/breaches/cloud-leak-accenture>
Deep Root Analytics - <https://www.upguard.com/breaches/the-rnc-files>
Alteryx - <https://www.upguard.com/breaches/cloud-leak-alteryx>

FedEx - <https://mackerpersecurity.com/post/fedex-customer-records-exposed>
WWE - <https://mackerpersecurity.com/post/world-wrestling-entertainment-leaks-3-million-emails>
PHM - <https://mackerpersecurity.com/post/patient-home-monitoring-service-leaks-private-medical-data-online>

Reasons for backups...



```
graph LR; A[Vulnerability Announcements] --> C[Change Management]; B[Change Requests] --> C
```

Change Management

Vulnerability
Announcements



TESLA



Roughly 70% of outages
are due to changes in a live system.

Benjamin Treynor Sloss
Vice President, Google Engineering, founder of Google SRE

<https://landing.google.com/sre/book/index.html>

O'REILLY®

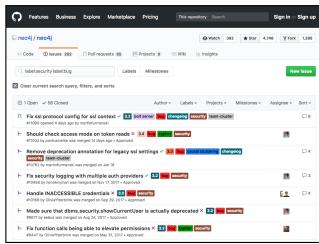


Site Reliability Engineering

HOW GOOGLE RUNS PRODUCTION SYSTEMS

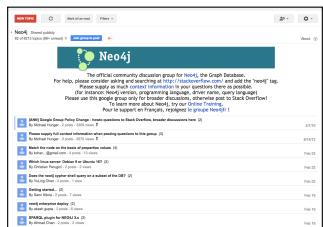
Edited by Betsy Beyer, Chris Jones,
Jennifer Petoff & Niall Richard Murphy

Bugs & Release Notes



A screenshot of the Neo4j GitHub repository interface. The page shows a list of open issues under the 'Issues' tab. One prominent issue is labeled 'Insecure dependency: org.neo4j:neo4j version 3.0.0'. The issue details page shows a detailed description of the vulnerability, including code snippets and security implications.

CVE Details National Vulnerability DB



A screenshot of the Neo4j mailing list archive. A specific thread discusses a security issue related to the database. The subject line of the email is 'Re: [Neo4j] Neo4j security - possible remote exploit'. The message body contains technical details and links to further reading.

Mailing Lists

Injected by

Injected by

Injected by

zapier*

Creates Ticket

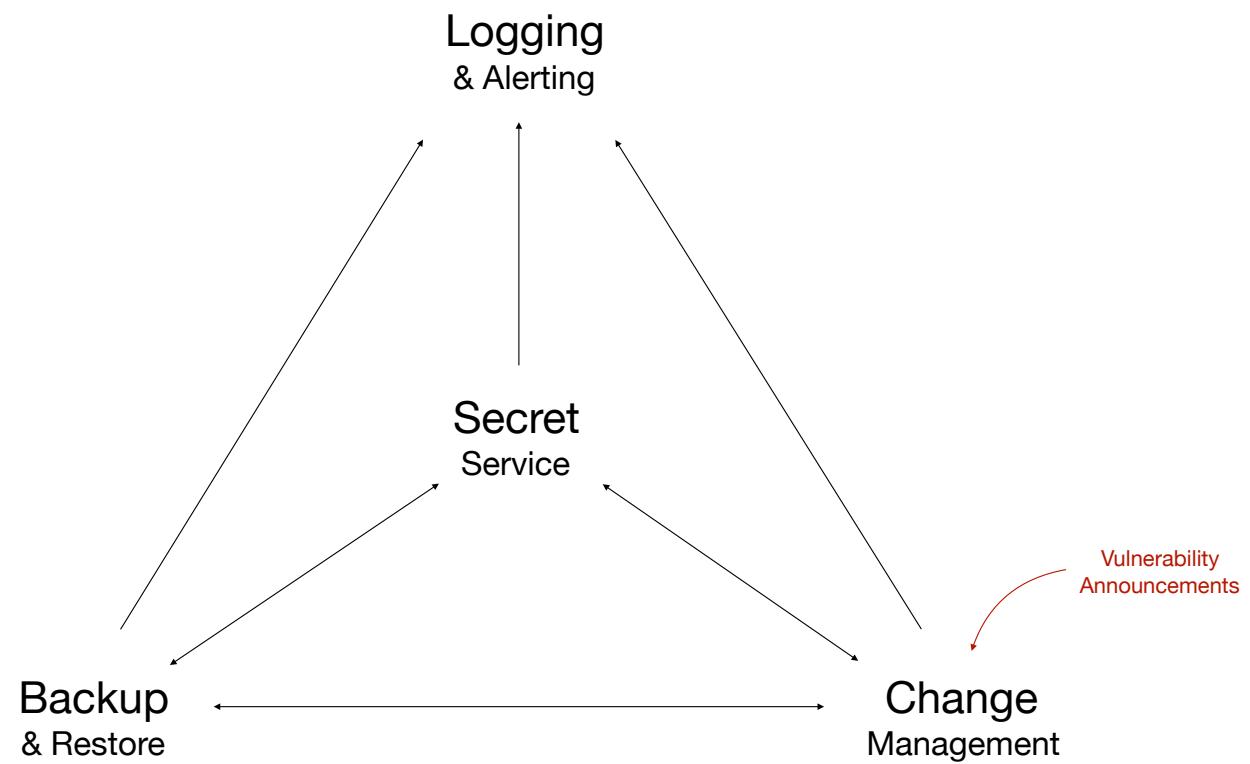
Assigned to



This guy.

Vulnerability Alert Pipeline

Infrastructure Services = Stability



Use security as a competitive advantage.

Customer Security Requirements.

SIG_Full_2016.PVH (updated).xlsx

V. Cloud Security

Questionnaire Instructions:

- For each question choose either Yes, No or N/A from the drop-down menu provided. If N/A is chosen, an explanation is mandatory. Use the Additional Information Field in column F to provide.
- To display the entire contents of the tab and disable the transfer of responses from the Lite tab, select the word "Disable" in the Tab Automation field at the top of the page.
- Use the Maturity column to identify the maturity of the question. See the How To Guide for instructions on filling out this field.

96% Percent Complete

Tab Automation: Enable

Ques Num	Question/Request	Response	Maturity	Additional Information	Service Model	Deployment Model	AUP Reference	ISO 27002:2013 Relevant
5 V.1	Are Cloud Services provided? If yes, what service model is provided (select all that apply):	Yes					V.1 Service and Deployment Models	Determining the scope of information management
6 V.1.1	Software as a Service (SaaS)?	Yes					V.1 Service and Deployment Models	4.3
7 V.1.2	Platform as a Service (PaaS)?	No					V.1 Service and Deployment Models	
8 V.1.3	Infrastructure as a Service (IaaS)?	No					V.1 Service and Deployment Models	
9 V.1.4	What deployment models are provided (select all that apply):						V.1 Service and Deployment Models	Determining the scope of information management
10 V.1.4.1	Private cloud?	Yes					V.1 Service and Deployment Models	4.3
11 V.1.4.2	Public cloud?	No					V.1 Service and Deployment Models	
12 V.1.4.3	Community cloud?	No					V.1 Service and Deployment Models	
13 V.1.4.4	Hybrid cloud?	No					V.1 Service and Deployment Models	
14 V.1.5	Where is the cloud infrastructure hosted:							Determining the scope of information management
15 V.1.5.1	Data center; single tenancy?	No						4.3
16 V.1.5.2	Co-location; dedicated server?	No						
17 V.1.5.3	Co-location; shared server?	No						
18 V.1.5.4	Co-location; dedicated cabinet?	No						
19 V.1.5.5	Co-location; shared cabinet?	No						
20 V.1.5.6	Co-location; dedicated cage?	No						
21 V.1.5.7	Co-location; shared cage?	No						
22 V.1.5.8	Cloud provider: (e.g., AWS)?	Yes						
23 V.1.6	What legal jurisdiction does data reside (select all that apply):						P.1 Scoped Privacy Data Inventory and Flows	Identification of applicable legislation and contract requirements
24 V.1.6.1	USA?	Yes					P.1 Scoped Privacy Data Inventory and Flows	18.1.1
25 V.1.6.2	Canada?	No					P.1 Scoped Privacy Data Inventory and Flows	
26 V.1.6.3	Asia?	No					P.1 Scoped Privacy Data Inventory and Flows	
27 V.1.6.4	South America?	No					P.1 Scoped Privacy Data Inventory and Flows	
28 V.1.6.5	Australia?	No					P.1 Scoped Privacy Data Inventory and Flows	
29 V.1.6.6	Asia-Pacific?	No					P.1 Scoped Privacy Data Inventory and Flows	
30 V.1.6.7	Africa?	No					P.1 Scoped Privacy Data Inventory and Flows	
31 V.1.6.8	Europe (EU)?	No					P.1 Scoped Privacy Data Inventory and Flows	
32 V.1.6.9	Europe (non-EU)?	No					P.1 Scoped Privacy Data Inventory and Flows	
33 V.1.6.10	Other (please specify)?	No					P.1 Scoped Privacy Data Inventory and Flows	
34 V.1.7	Can clients define the legal jurisdictions of their data? If yes, can they define where the data is:	No		Data stored in US only.			P.1 Scoped Privacy Data Inventory and Flows	Identification of applicable legislation and contract requirements
35 V.1.7.1	Stored?	No					P.1 Scoped Privacy Data Inventory and Flows	18.1.1
36 V.1.7.2	Processed?	No					P.1 Scoped Privacy Data Inventory and Flows	
37 V.1.7.3	Transmitted?	No					P.1 Scoped Privacy Data Inventory and Flows	
38 V.1.7.4	Accessed?	No					P.1 Scoped Privacy Data Inventory and Flows	
39 V.1.8	Are application instances part of the services provided?	No					P.1 Scoped Privacy Data Inventory and Flows	9.4.1
40 V.1.8.1	Are these instances shared with other clients?	No					P.1 Scoped Privacy Data Inventory and Flows	Information access requirements
41 V.1.9	Are database instances part of the services provided?	No					P.1 Scoped Privacy Data Inventory and Flows	9.4.1
42 V.1.9.1	Are these instances shared with other clients?	No					P.1 Scoped Privacy Data Inventory and Flows	9.4.1
43 V.1.10	Is data segmentation and separation capability between clients provided? If yes, is it:	Yes					V.1 Service and Deployment Models	Information access requirements
44 V.1.10.1	Physical separation (private cloud)?	No						9.4.1
45 V.1.10.2	Network segmentation?	No						9.4.1
46 V.1.10.3	System segmentation (unique system instances (e.g., virtualization))?	No						9.4.1
47 V.1.10.4	Application segmentation (unique application instances)?	No						9.4.1
48 V.1.10.5	Application segmentation (e.g., application ID, metadata tagging)?	Yes						9.4.1

Security Policy

HR / Pages

TruSTAR Security Policy

George Chamales
Last modified Jan 29, 2018

Dealing With A Security Incident?

Please store the Security Coordinator's contact info in your phone & computer:

Chris Roblee
croblee@trustar.co
+1 (248) 248-2488

Reporting a security incident? See section 2.2
Responding to a reported security incident? See section 2

Introduction

Welcome to the TruSTAR Security Policy. Here you'll find all of the different ways we maintain the security of our company. This document is ordered around a set of simple principles that form the foundation of our security philosophy.

All of our security rules, requirements and recommendations flow from these principles, and it's your job as an employee of TruSTAR to burn a few minutes reading through the whole thing. A lot of it will be relevant to your work and the bits that aren't will give you a better understanding of how the company works and why certain decisions are getting made.

Our Security Principles:

0. **Responsibility:** Security is Literally Your Job.
1. **Assets:** If it's Used, it's Tracked
2. **Incident Response:** Over-Share, Overreact
3. **Physical Security:** Locked by Default
4. **Communications Security:** Encrypted by Default
5. **System Security:** Starts Locked Down, Stays Locked Down
6. **Network Access:** Nothing Moves Without Permission
7. **Data Access:** Need to Know
8. **Backup & Recovery:** We Never Lose Data
9. **Account Management:** Minimum Privileges, Maximum Control
10. **Software Dev & Deployment:** Bugs Get Squished
11. **Periodic Reviews & Updates:** There Will Be a Test.

0. Responsibility: Security is Literally Your Job

After giving it a lot of thought, we realized that the most efficient way to ensure that security is built into our products and services is to make building security a core part of every employee's job. That's not a generic, wishy-washy phrase ala "if you see something, say something". When we say that security is everyone's job, we mean that both specifically and literally.

Everyone's job description includes the phrase "...and its security".

This applies to everyone: If you're a web developer, then you're responsible for writing code...and its security. If you're the CEO, then your job is to oversee the operation of the company...and its security. If you're a part of the sales team with access to our social media accounts,

- **Introduction**
- **0. Responsibility:** Security is Literally Your Job
- **1. Assets:** If it's Used, it's Tracked.
 - 1.1 Hardware Inventory
 - 1.2 Software Inventory
 - 1.3 Account Inventory
 - 1.4 Client Information Inventory
 - 1.5 External Services Inventory
 - 1.6 Subcontractor Inventory
- **2. Incident Response:** Over-Share, Overreact
 - 2.1 Spotting Vulnerabilities and Potential Attacks
 - 2.2 Reporting Incidents
 - 2.3 Tracking Incidents
 - 2.4 Customer Notification
 - 2.5 Incident Response & Recovery
 - 2.5.1 Employee Computers
 - 2.5.2 Application Servers
 - 2.5.3 External Services
 - 2.6 Debriefing & Applying Lessons Learned
- **3. Physical Security:** Locked By Default
- **4. Communications Security:** Encrypted By Default
- **5. System Security:** Starts Locked Down, Stays Locked Down.
 - 5.1 Employee Computers
 - 5.2 Company Mobile Phones
 - 5.3 Application Servers
 - 5.4 External Services
- **6. Network Access:** Nothing Moves Without Permission.
- **7. Data Access:** Need to Know
- **8. Backup and Recovery:** We Never Lose Data.
- **9. Account Management:** Minimum Privileges, Maximum Control
- **10. Software Development & Deployment:** Bugs Get Squished
- **11. Periodic Review & Update:** There will be a test.
 - 11.1 Ongoing Checks
 - 11.2 Quarterly Checks
 - 11.3 Biannual Checks
 - 11.4 Yearly Checks
- **12. Congratulations!**



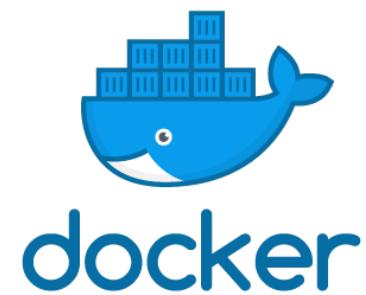


5 people



honeycomb

20 people



+250 people

Bootstrap Your Startup's Security

Patrick Coughlin - patrick@trustar.co
George Chamales - george@criticalsec.com

bootstrappingsecurity.com

Add security to everyone's job.

Make security enhance operations.

Use security as a competitive advantage.