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TRANSFORM

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How to Introduce “Enterprise-Grade” Security at a Startup

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Questions a startup might ask…

- When should a company start formally considering security?
- What elements should a bare-bones program have nowadays?
- What kinds of tools/technology should be used and when?
- How to project budgeting/costs for this effort?
- ~~Will the hackers even notice us? Do we even need security?~~

whoami

Me

- Security @ Axonius
- Before, Platform Security @ Bugcrowd
- Collector of tools and breaker of things
- (Finally) a dog owner →

Babka

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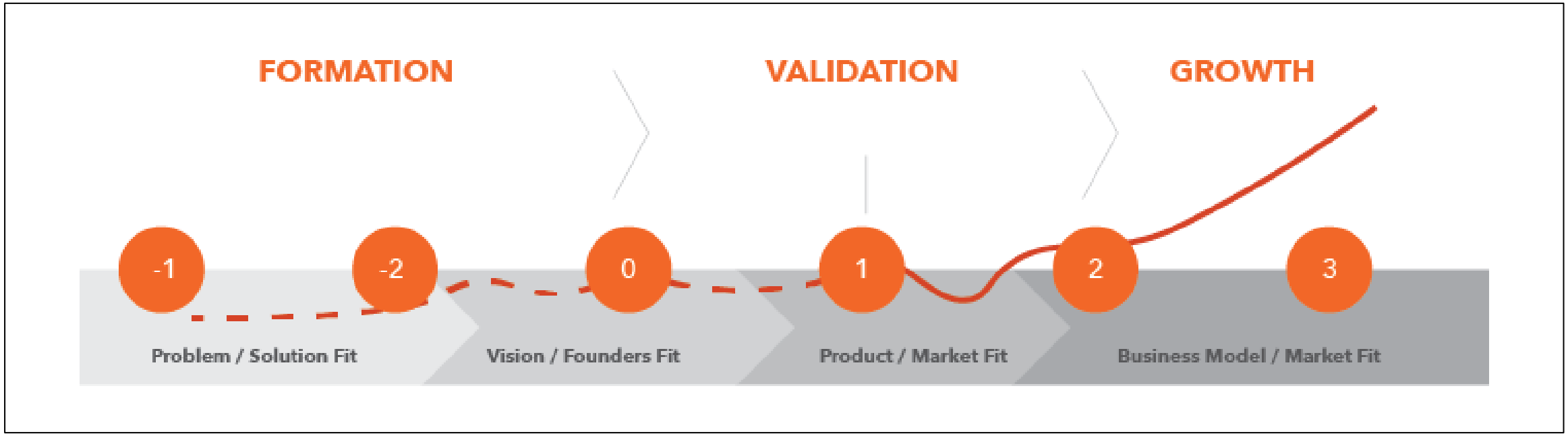
When?



https://upload.wikimedia.org/wikipedia/commons/a/a4/VentureTimeline.png

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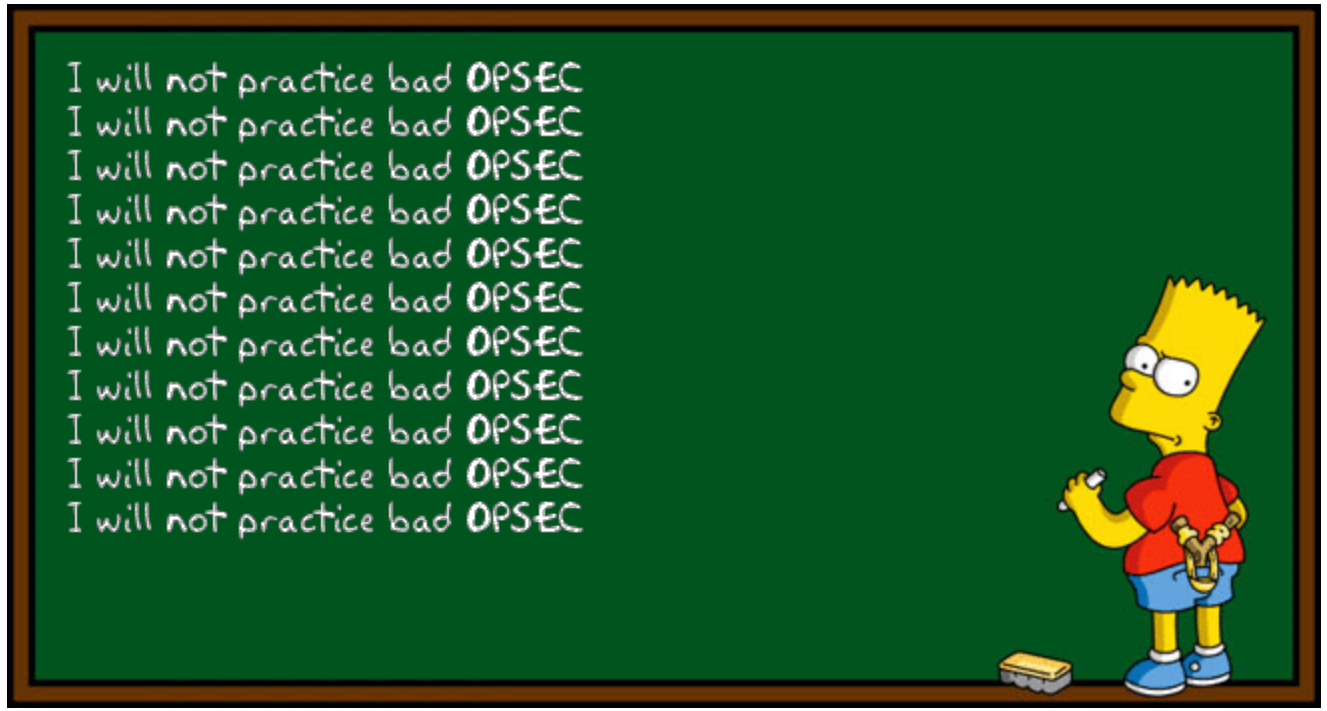
“Pre-Program” Advice

OpSec (and Culture)



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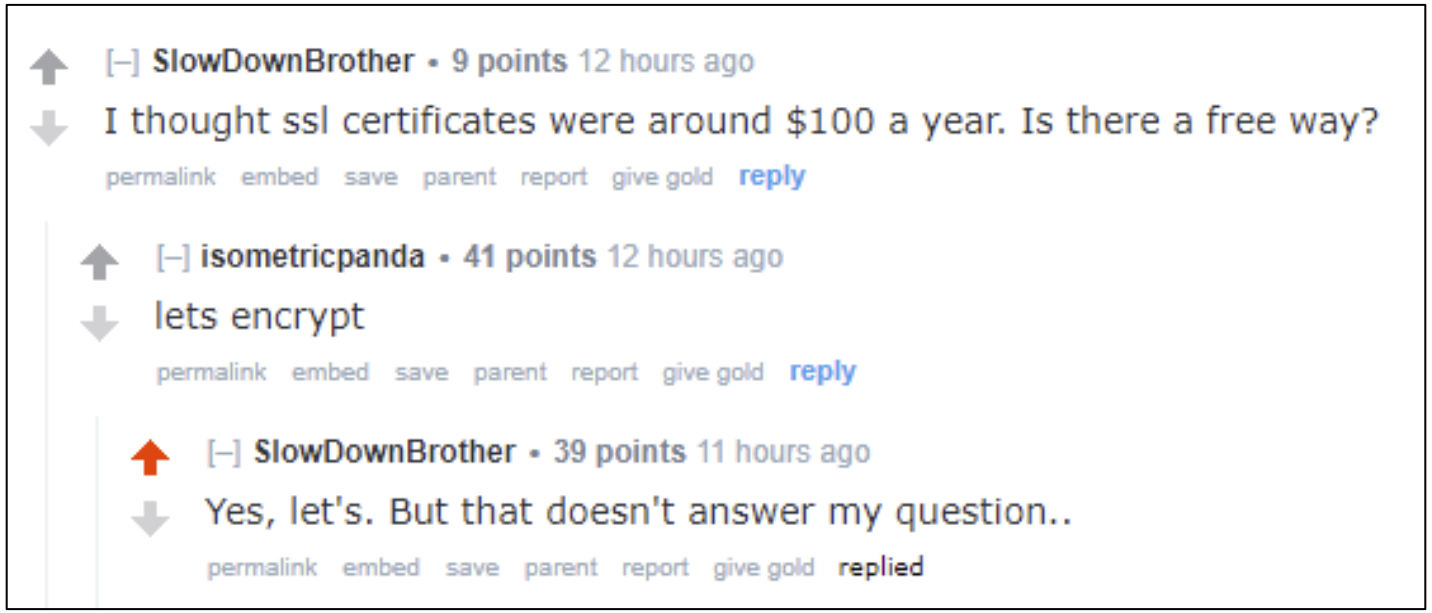
Encrypt it All



https://www.reddit.com/r/ProgrammerHumor/comments/7x2ugb/lets_encrypt/

Password Manager + 2FA

https://unsplash.com/photos/q7h8LVeUgFU

(Ongoing) Threat Modeling

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Starting a Formal Program

Q: What’s the Security Team’s job?

Who washes your hands?

https://unsplash.com/photos/aeh1dbI_a7I

Who should start the team?

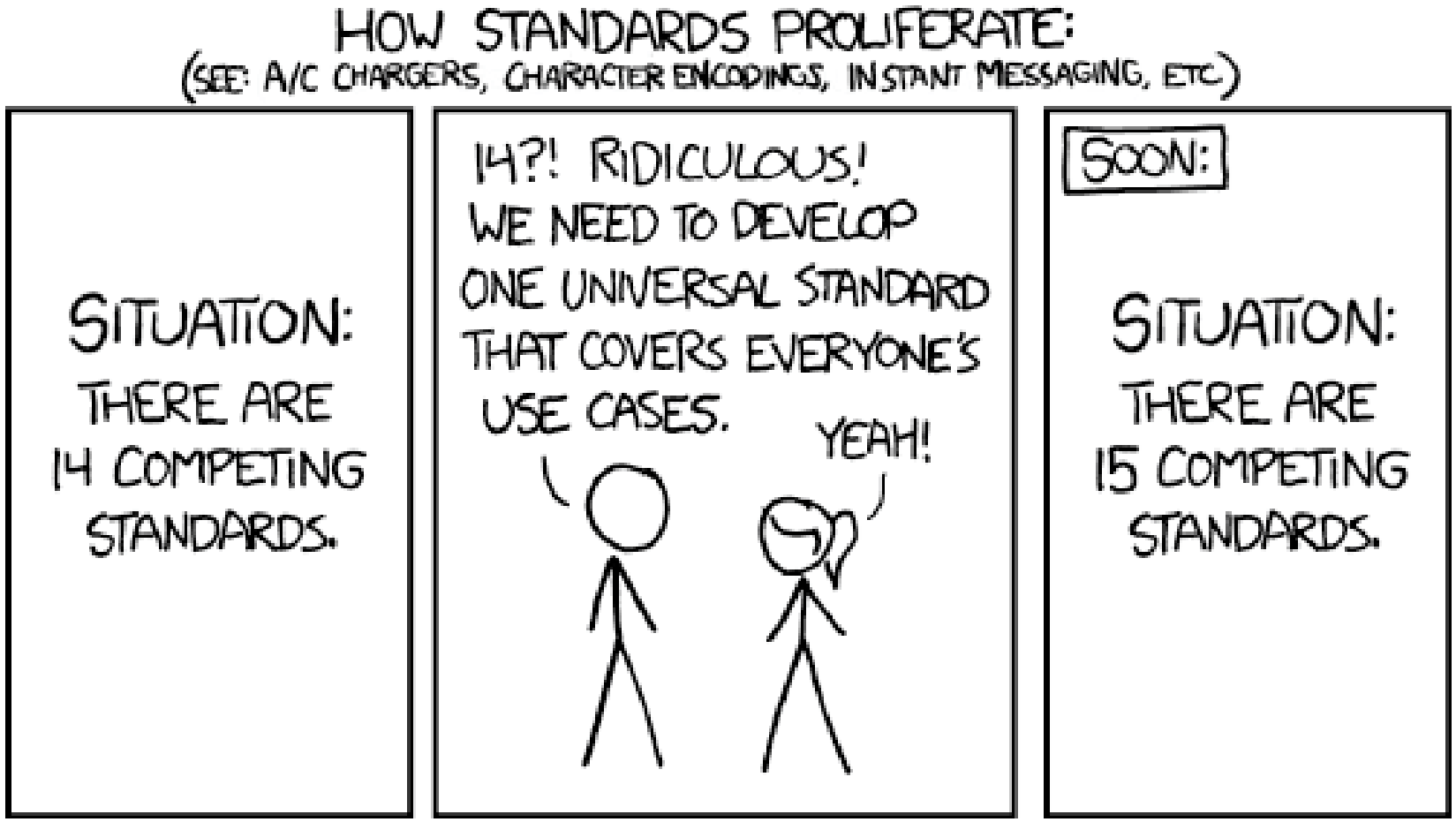
1. (New) CISO
   - Who will execute if the CISO cannot?
   - How important is the external/marketing component?

2. (New) Senior IC with a technical background
   - If they will execute, what's their path? Eventual CISO?

3. (Existing) Platform Engineering personnel
   - Can they handle balancing platform/AppSec with CorpSec?

4. (Existing) Corporate IT personnel
   - Can they handle balancing day-to-day operations with risk management?

Compliance



https://xkcd.com/927/

Compliance

Risk	Tactical/Controls	Privacy
ISO 27001	SOC 2 (Type 1 & 2)	GDPR
”…an information security management system…requirements for the assessment and treatment of…risks…”	*“…assurance about the controls at a service organization relevant to security, availability, and processing integrity…”*	*“…protection…with regard to the processing of personal data and rules relating to the free movement of…data.”*

Executive Buy-In

- Some budget and the creation of the team itself is not enough.
- Establish a “Security Working Group” that meets regularly, e.g. quarterly.
- Give executives a chance to understand Security’s priorities and voice concerns, especially related to their own team.
- Can discuss notable incidents, discuss ongoing risks, and ensure no surprises.

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Vendor Selection

- SaaS is likely a better fit early on vs. self-hosted (but do your threat modeling).
- Many products use as $/user/month model, so think in these terms.
- Design a basic Vendor Security Risk Assessment Questionnaire to send out to measure technical risk.
- Try to split up vendors into tiers:
  - T1 - Critical to business/revenue
  - T2 - Important but not critical
  - T3 - Not so important

	Low Risk	Med Risk	High Risk
T3	1	2	3
T2	2	4	6
T1	3	6	9

Don’t forget support!

“If you owe the bank $100 that’s your problem. If you owe the bank $100 million, that’s the bank’s problem.”

- J. Paul Getty

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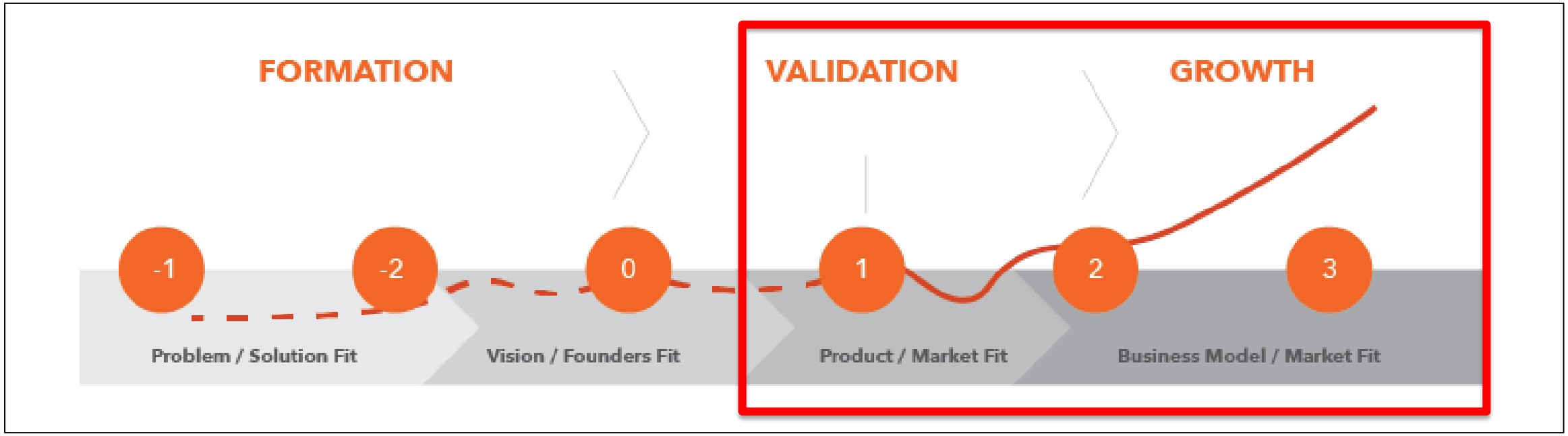
Projects & Tools

Different Areas

- Corporate IT
- Cloud Infrastructure / DevOps
- Corporate Security
- Platform/Infrastructure Security
- Security Assurance (GRC)



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Corporate IT

Foundational

- Asset Management (Manual)
- Directory (SSO)
- Directory (2FA)

Early

- MDM (Manual)
- Asset Management (Automated)
- Directory (SCIM)

Later

- MDM (Zero Touch)
- Advanced User Protection

Cloud Infrastructure

Foundational

- Config Management
- Decentralized Logging

Early

- Zero Trust Architecture
- Infrastructure-as-code

Later

- Centralized Logging

Corporate Security

Foundational

- Super Admin management
- Protect your domain name
- OSINT monitoring
- Security Awareness Training (ad-hoc)

Early

- Endpoint Protection
- DMARC++

Later

- Advanced User Protection
- Security Awareness Training (annual)

Platform/Infrastructure Security

Foundational

- Lightweight Product-driven SDL
- /security page and security@ inbox

Early

- Basic static analysis
- Third-party security assessment

Later

- Formal VD/BB Program
- Cloud Workload Protection (maybe earlier, it depends)

Security Assurance (GRC)

Foundational

- Incident Response
- Business Continuity Disaster Recovery

Early

- Create a formal Vendor Review process
- Formally track Data Subprocessors

Later

- Formally organize Policies, Processes, and Procedures alongside controls
- Obtain a third-party audit for compliance

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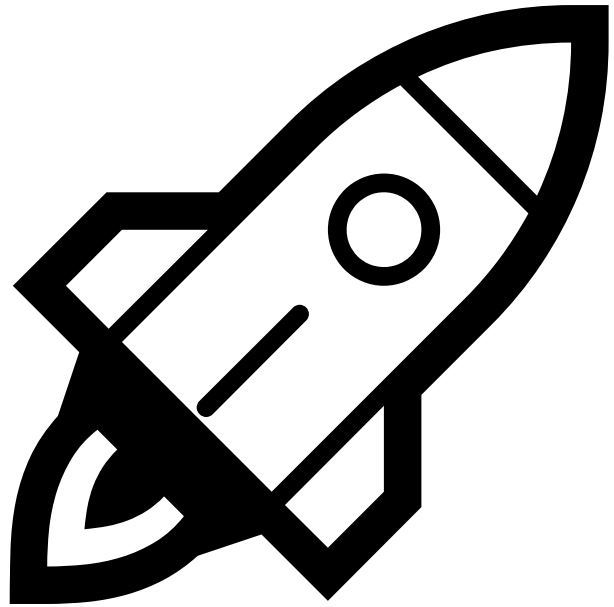
Budget Management

Properties of a Rapidly-Growing Company

1. Growing revenue is more important than limiting costs, within reason ☺
2. Headcount growth is unpredictable, but usually exceeds the initial projection.
3. Very little leverage when purchasing unit-based products, but costs aren't bad initially at small scale.



Different Concerns

Security

- What vendor do I pick for each category?
- If I'm asked to cut the budget, what goes first?
- Are there any caveats to an item that require explicit/documented context?

Finance

- What's the stated purpose of each line item?
- What does the monthly cash flow look like?
- Does the cost scale with headcount growth?

Budgeting Spreadsheet

	B	C	D	E	F	G	H	S	T
1	$0.00					Month	Jan	Dec	
2						New Hires			
3						Total Employees		0	
4							$0.00	$0.00	
5	Purpose	Vendor/Product	Category	Cost	Unit	Term			Comments
6									
7									
8									
9									
10									
11									
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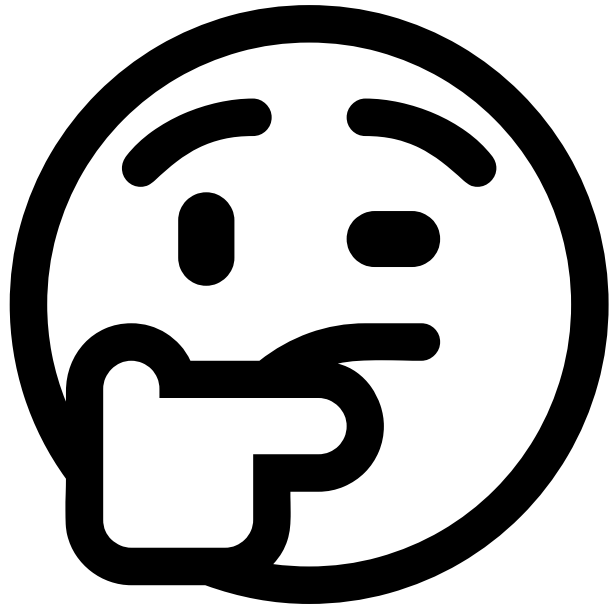
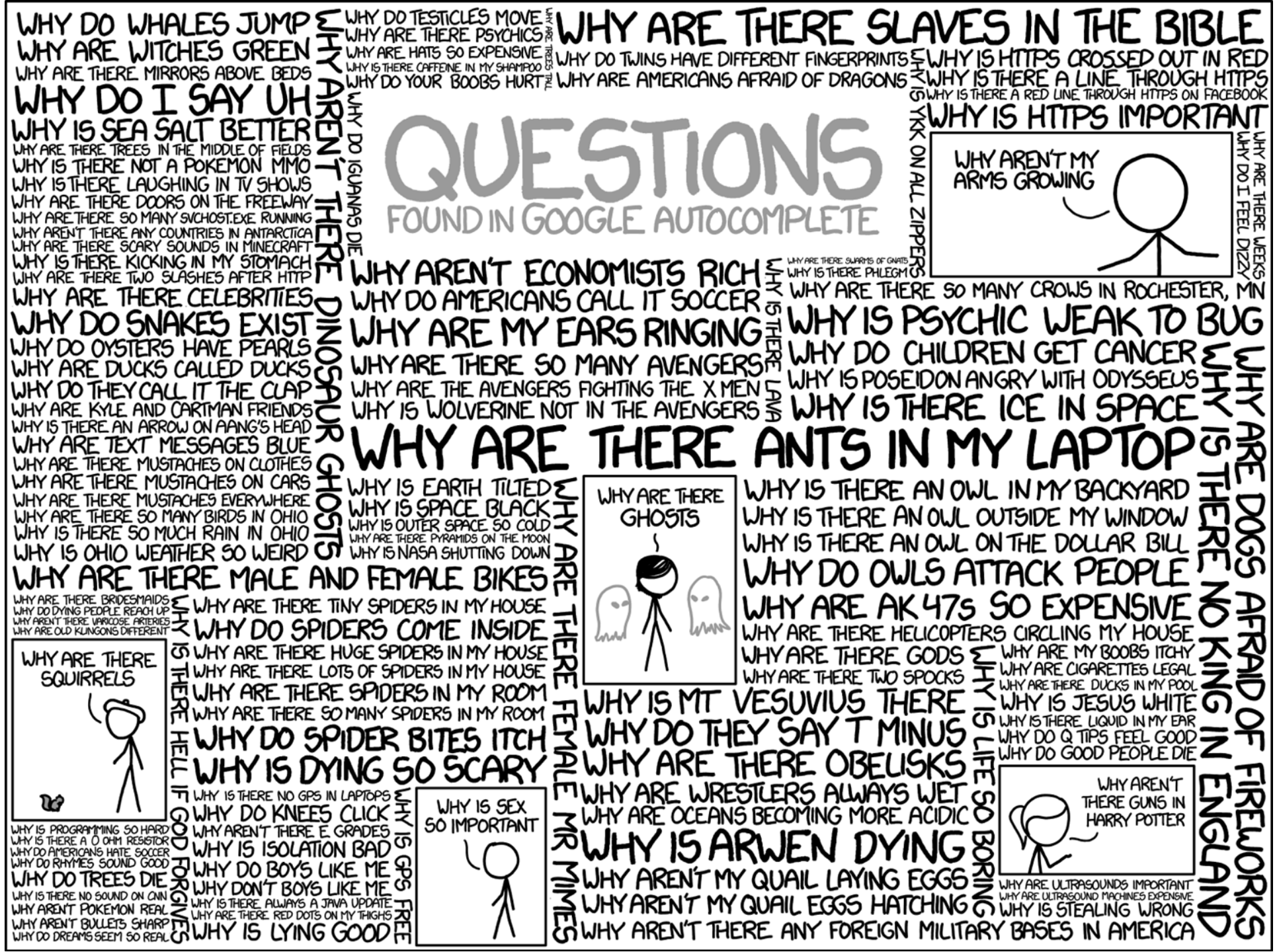
16									
17									

If you're in this boat, how do you apply this?

- Address "foundational" items before pursuing anything complex.
- Do things that don't scale if it buys you scale later.
- Determine what type of first security hire is right for your org.
- Decide what having a good security culture means for your company, and design around it.





https://xkcd.com/1256/