

The State of DevOps

Capabilities for Building High-performing
Technology Teams





bit.ly/sodr-does



STORY TIME



The story, all names, characters, and incidents portrayed in this production are fictitious. No identification with actual persons (living or deceased), places, buildings, and products is intended or should be inferred.

No animals were harmed in the telling of this story

log4j Shell tm



Timelines

*Where were you when you heard about
Log4Shell?*

*Where were you when you heard about
Log4Shell?*



DEC
10

- 9:00 - 10:00

Coffee Chats

- 4:00 - 5:00

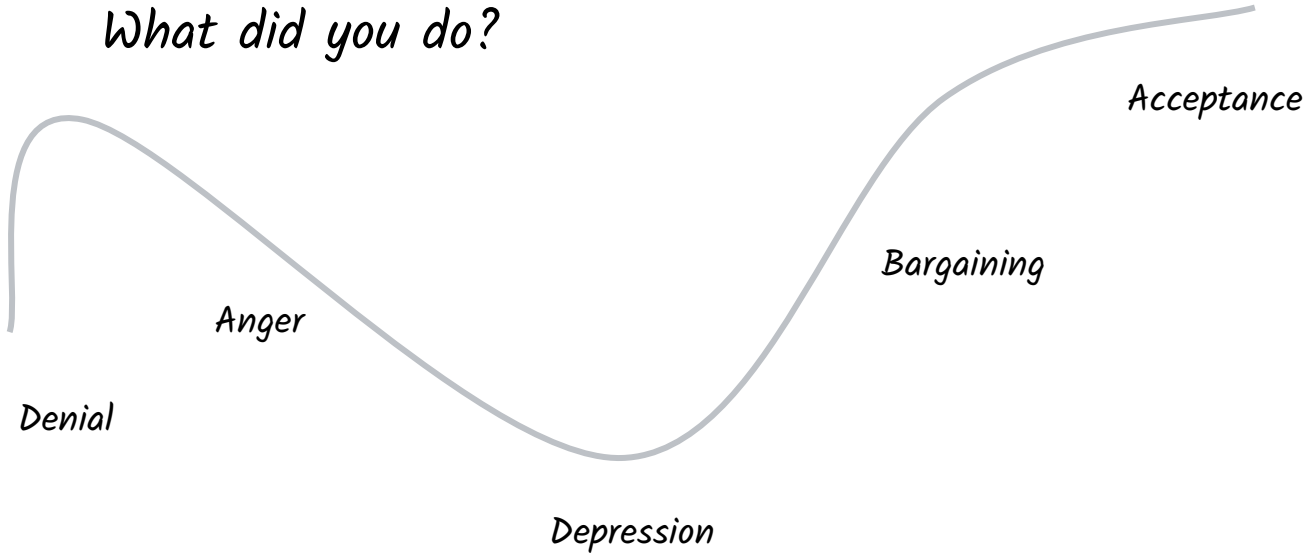
Holiday shopping

What did you do?

CVE



What did you do?



Denial

Anger

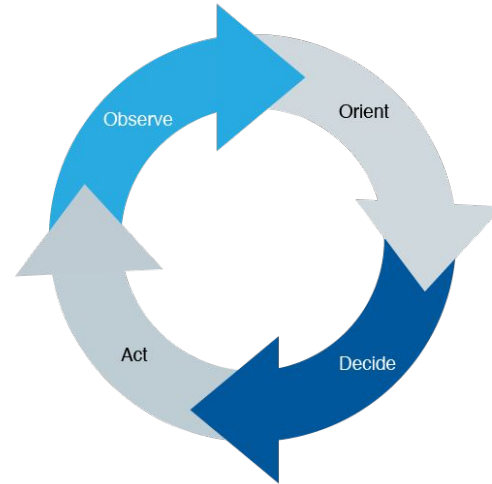
Depression

Bargaining

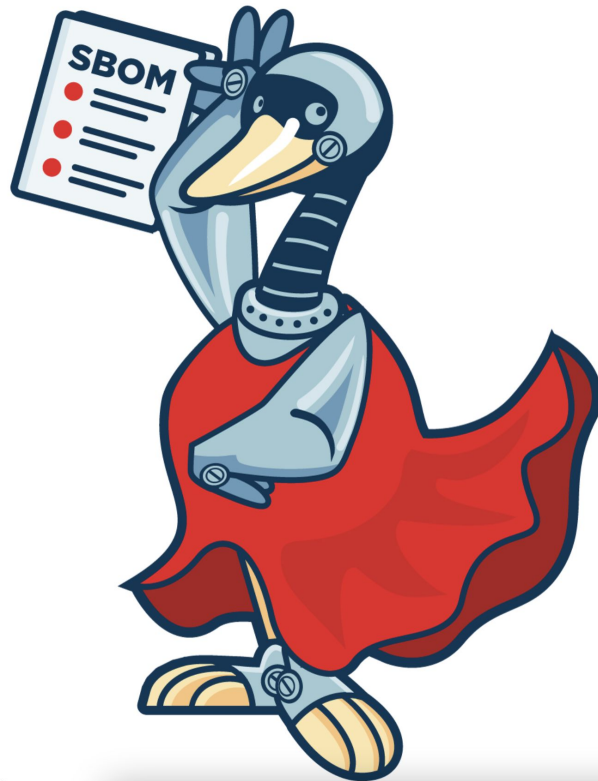
Acceptance

Getting started..

400 systems



Getting started..



E-commerce Website

E-commerce Website

- *Microservices*
- *27 repos*



→ *tightly coupled*



Vendor Built - no longer engaged



little documentation

E-commerce Website

- Microservices
- 27 repos



→ tightly coupled

#nodeployfridays



Vendor Built - no longer engaged



little documentation



CAB



Lead Time

1-2 Months

Deployment Frequency

1-2x a year

Change fail rate

50%ish

TTR

???

Reliability

Usually reliable

Did you burnout?



Order Management System:

Order Management System:

- *Active development*
- *Team has been focused on improving*
- *Loosely coupled components*



Automated testing



Automated builds

Order Management System:

- Active development
- Team has been focused on improving
- Loosely coupled components
- Prioritizing fixing broken builds 😊



Automated testing



Automated builds



CAB



Lead Time

1 week

Deployment Frequency

weekly

Change fail rate

15%

TTR

Less than a day

Reliability

Usually reliable



“How do we help the website team have the Order Management System team experience in the future?”







DESIGNATED OUTDOOR REFRESHMENT AREA



DESIGNATED OUTDOOR REFRESHMENT AREA

Bucyrus, Ohio



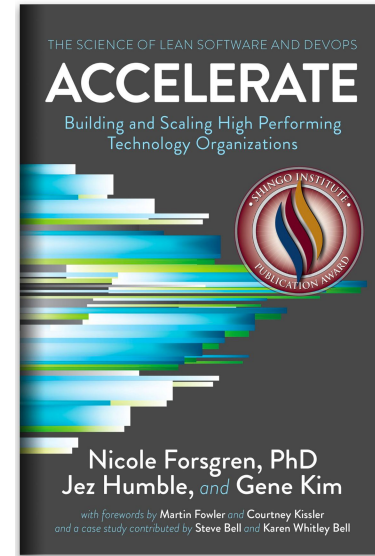
DESIGNATED OUTDOOR REFRESHMENT AREA

MINERVA, OHIO



DESIGNATED | OUTDOOR | REFRESHMENT | AREA

WOOSTER • OHIO





Capabilities

Technical

- Trunk-based development
- Cloud infrastructure
- Shifting left on security
- ...

Process

- Work in small batches
- Streamlined change approval
- Visibility of work in value stream
- ...

Cultural

- Generative, trust-based
- Learning culture
- Transformational leadership
- ...

Predict

Software Delivery and Operations Performance

Predict

Commercial Outcomes

(e.g. market share, profitability, employee retention)

 As measured by

- **Throughput**
 - lead time for changes
 - deployment frequency
- **Stability**
 - time to restore service
 - change failure rate
- **Reliability**

Context Matters

There is no well-paved, one-size-fits-all roadmap to follow

Delivery performance **drives** organizational performance only when operational performance is **also** high

Teams must **mature reliability practices** to meet reliability targets which then impact organizational performance



Reliability practices

Regular reliability **reviews**

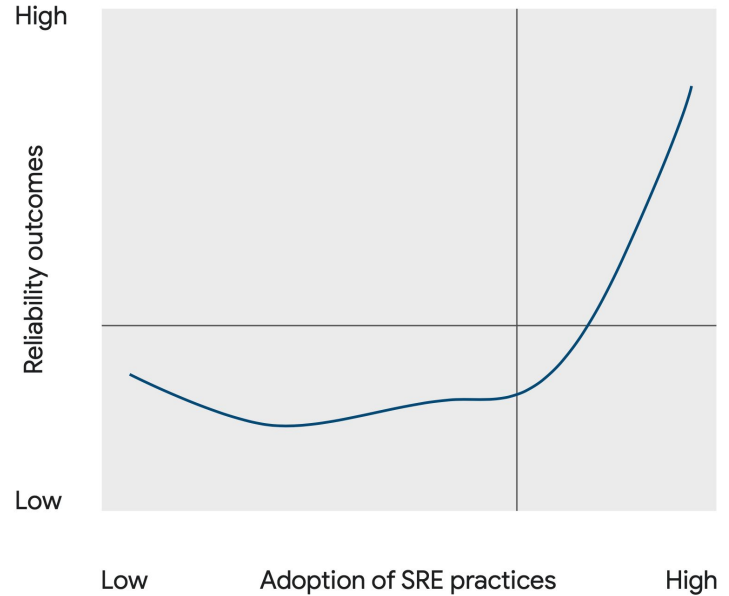
Well defined **reliability targets**

Reduce **toil**

Re-prioritize work when
reliability targets are missed

Reliability

Investment yields improvements to reliability, but only once a **threshold of adoption** has been reached





Context Matters

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Technical capabilities **build on one another**



Technical Capabilities

Drivers of organizational performance

Version control

Continuous Delivery

Continuous Integration

Loosely-coupled architecture

3.8x higher organizational performance



Context Matters

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Technical capabilities **build on one another**

Security controls have a positive effect when continuous integration is in place

Security

- 01 Adoption has already begun
- 02 Healthier cultures have a head start

**Incorporating security processes
into existing workflows help
reduce security risks and
increase developer joy**

Westum Topology of Organizational Cultures

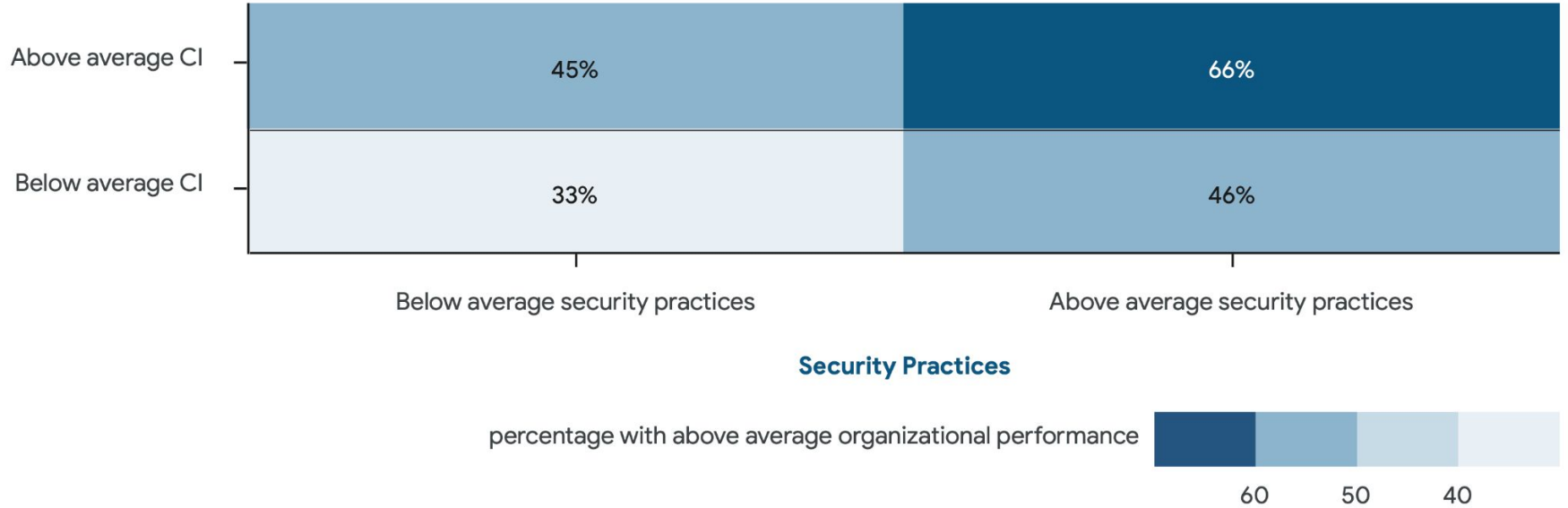
Pathological <i>Power-oriented</i>	Bureaucratic <i>Rule-oriented</i>	Generative <i>Performance-oriented</i>
Low cooperation	Modest cooperation	High cooperation
Messengers shot	Messengers neglected	Messengers trained
Responsibilities shirked	Narrow responsibilities	Risks are shared
Bridging discouraged	Bridging tolerated	Bridging encouraged
Failure leads to scapegoating	Failure leads to justice	Failure leads to enquiry
Novelty crushed	Novelty leads to problems	Novelty implemented

Security

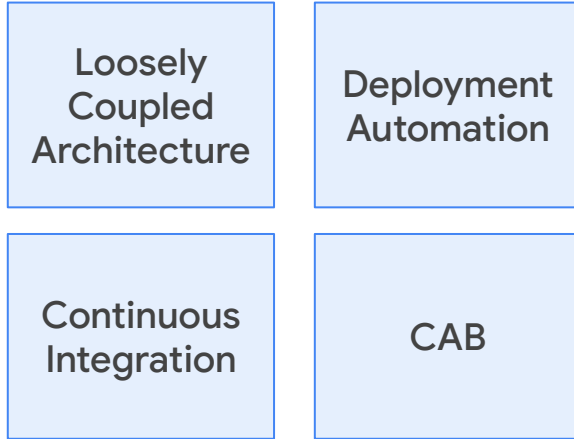
Incorporating security processes into existing workflows help reduce security risks and increase developer joy

- 01 Adoption has already begun
- 02 Healthier cultures have a head start
- 03 It provides unexpected benefits
- 04 There's a key integration point

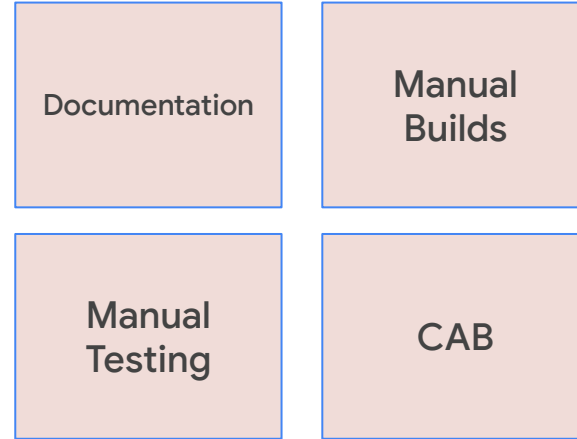
Continuous Integration & Security Practices

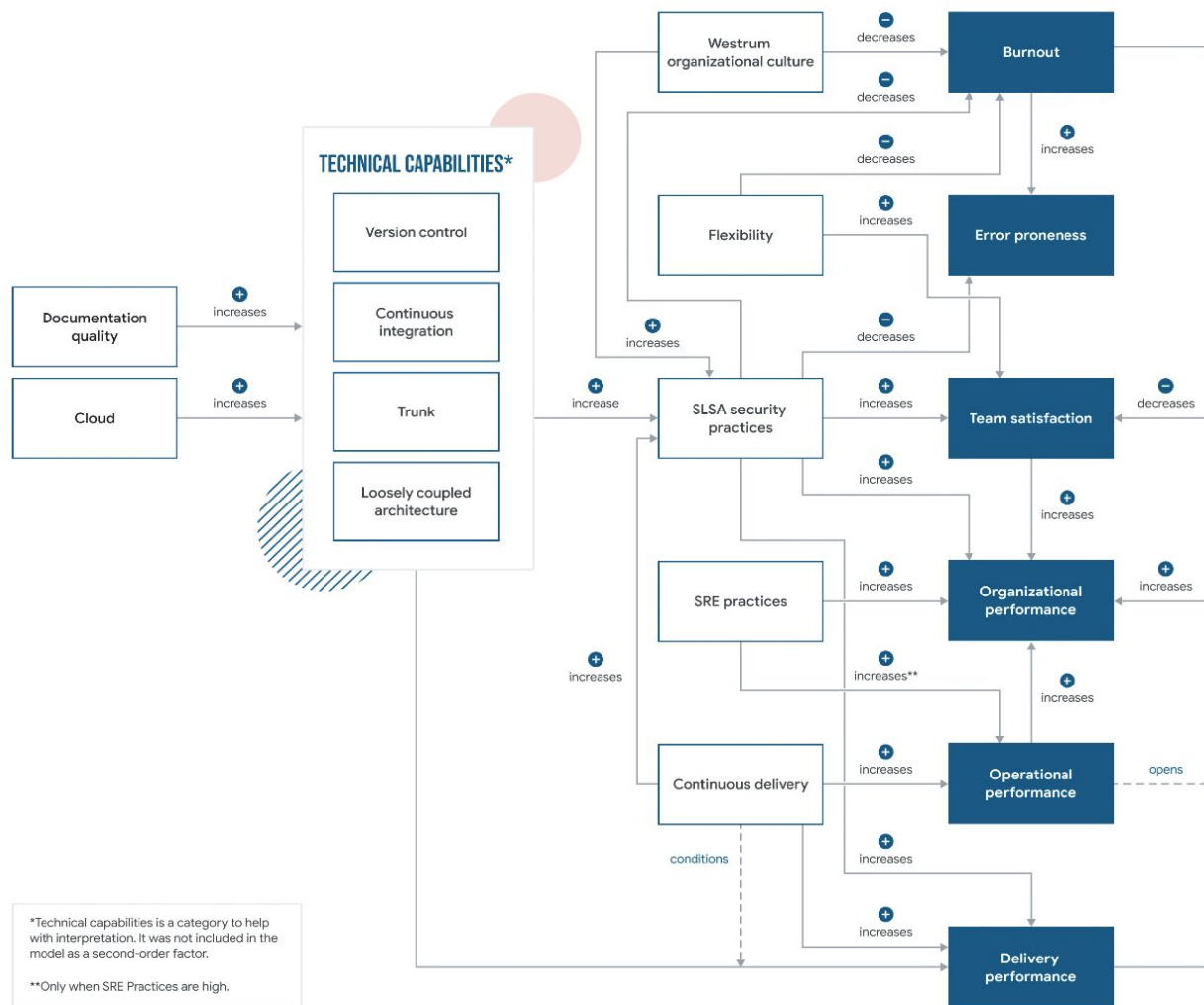


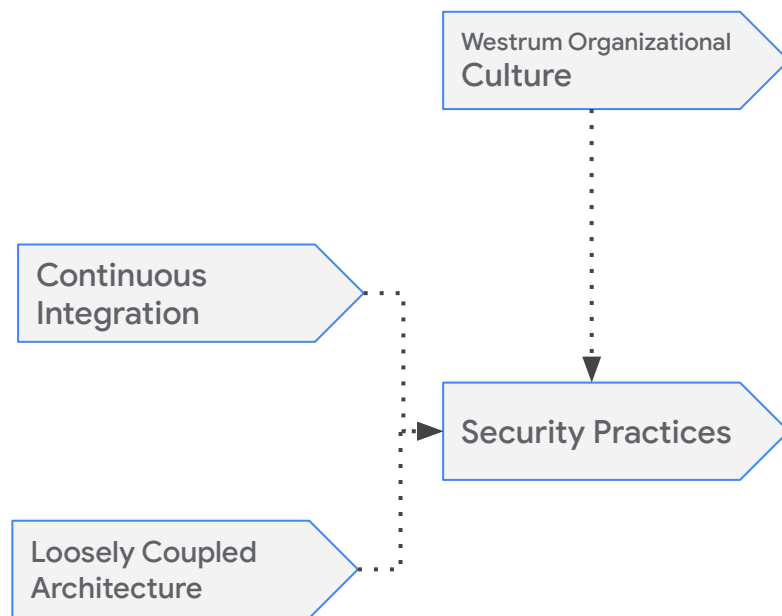
OMS team

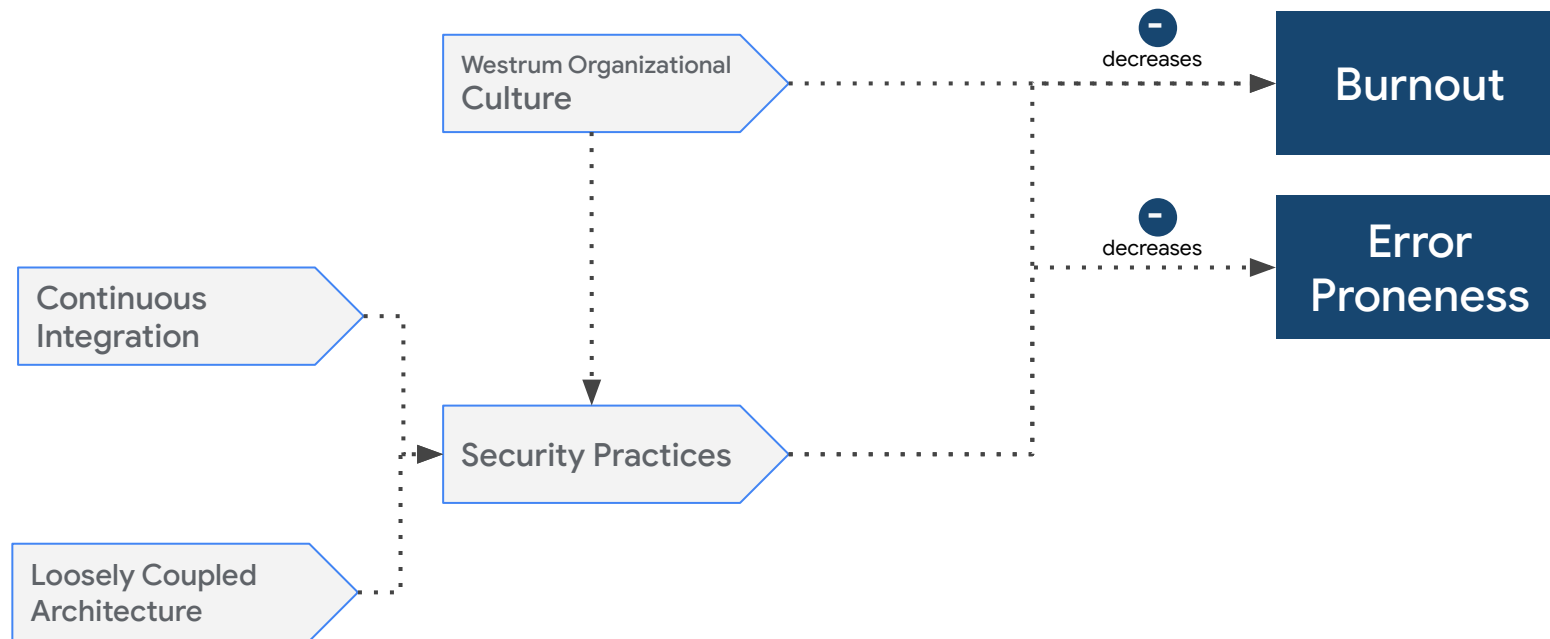


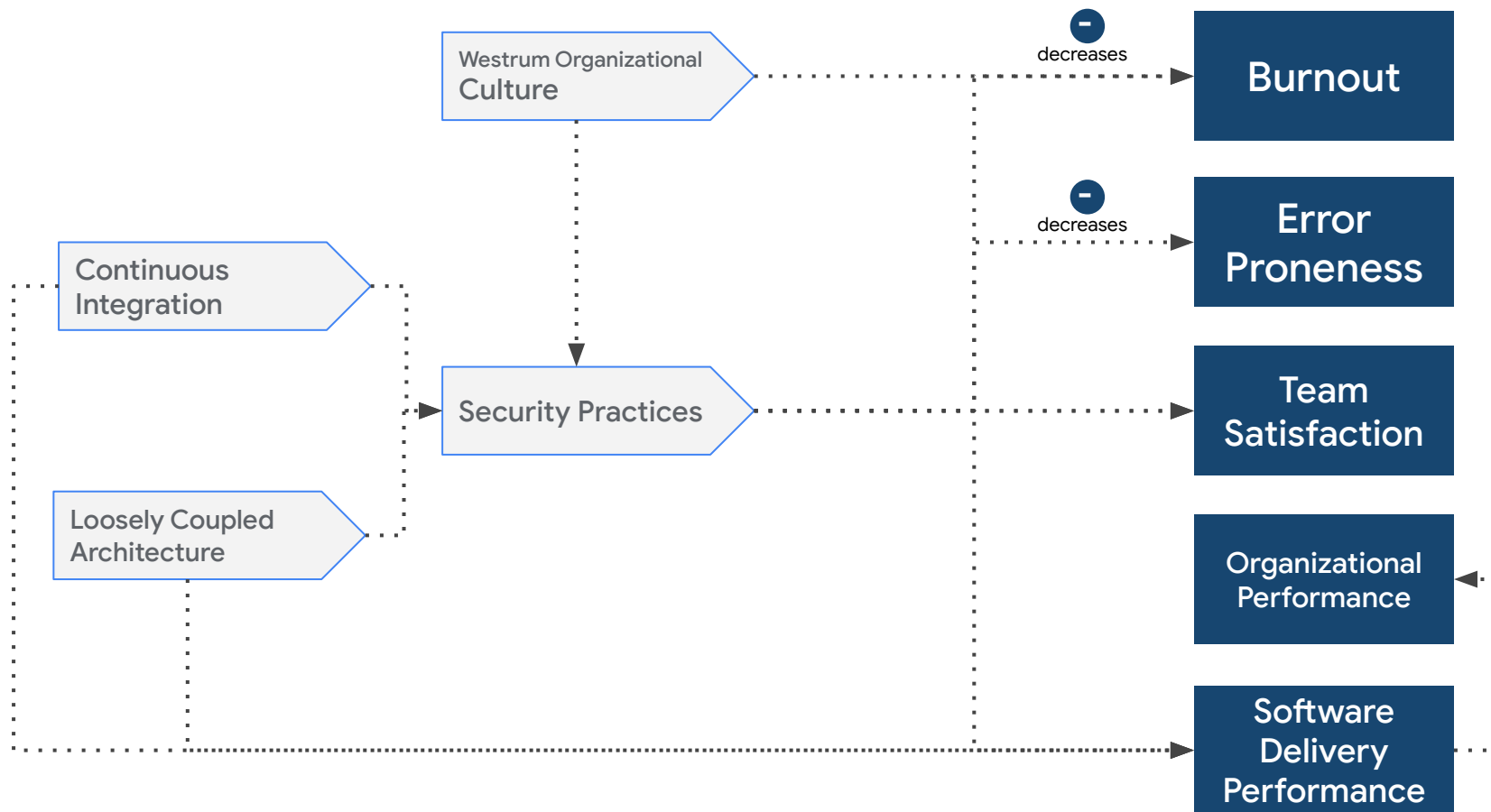
Website team











Nathen Harvey
Developer Advocate
@nathenharvey



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Developer Advocate
@swansama



How can you help?



Upcoming
Community Discussions:

December 15th 10am EST

Share, listen, and collaborate
Join the [DORA.community](https://dora.community)

Thank you.



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