Technical Insights: The 3 Components of Trust in Software Supply Chain Security

William Dupre

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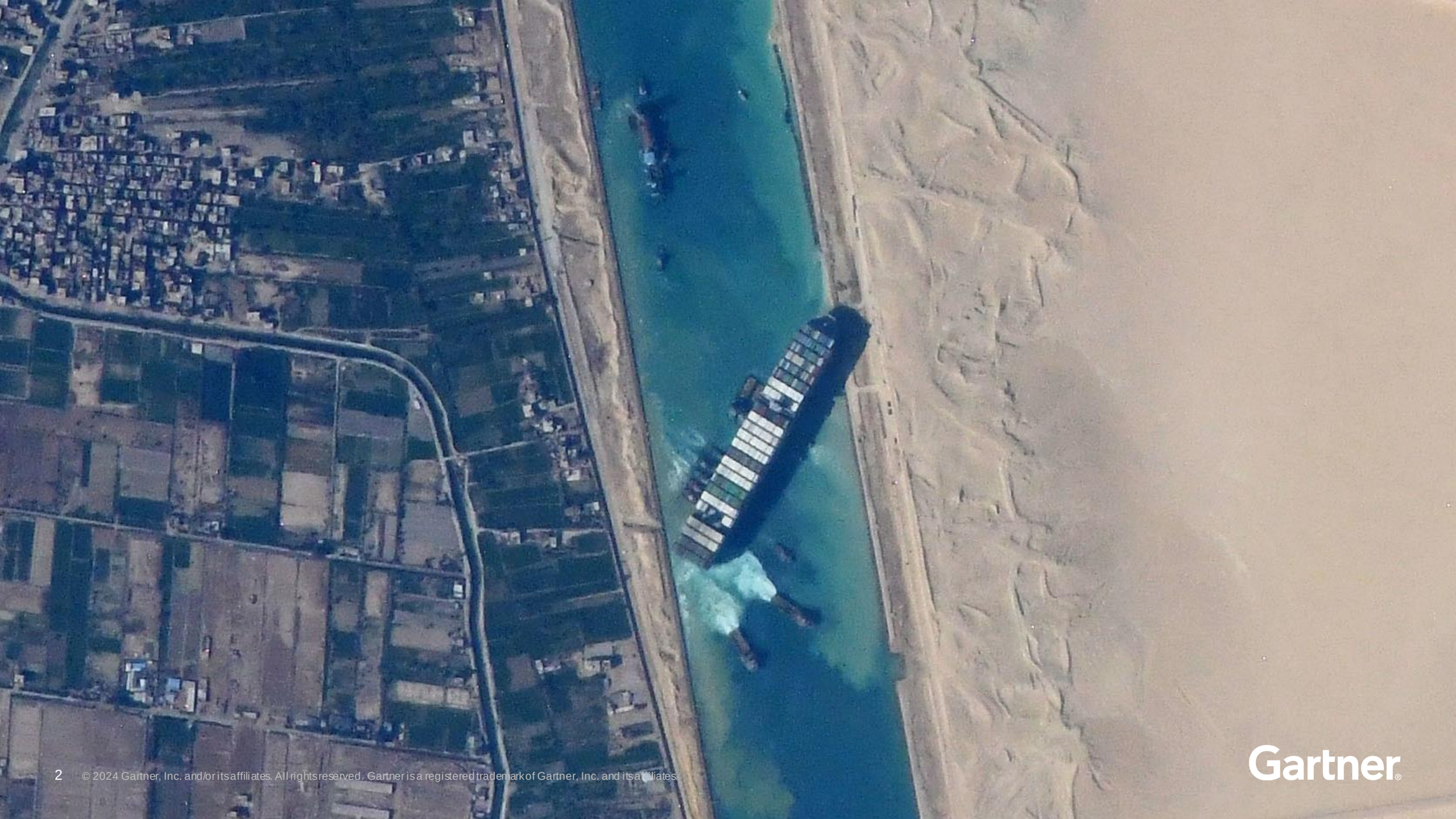

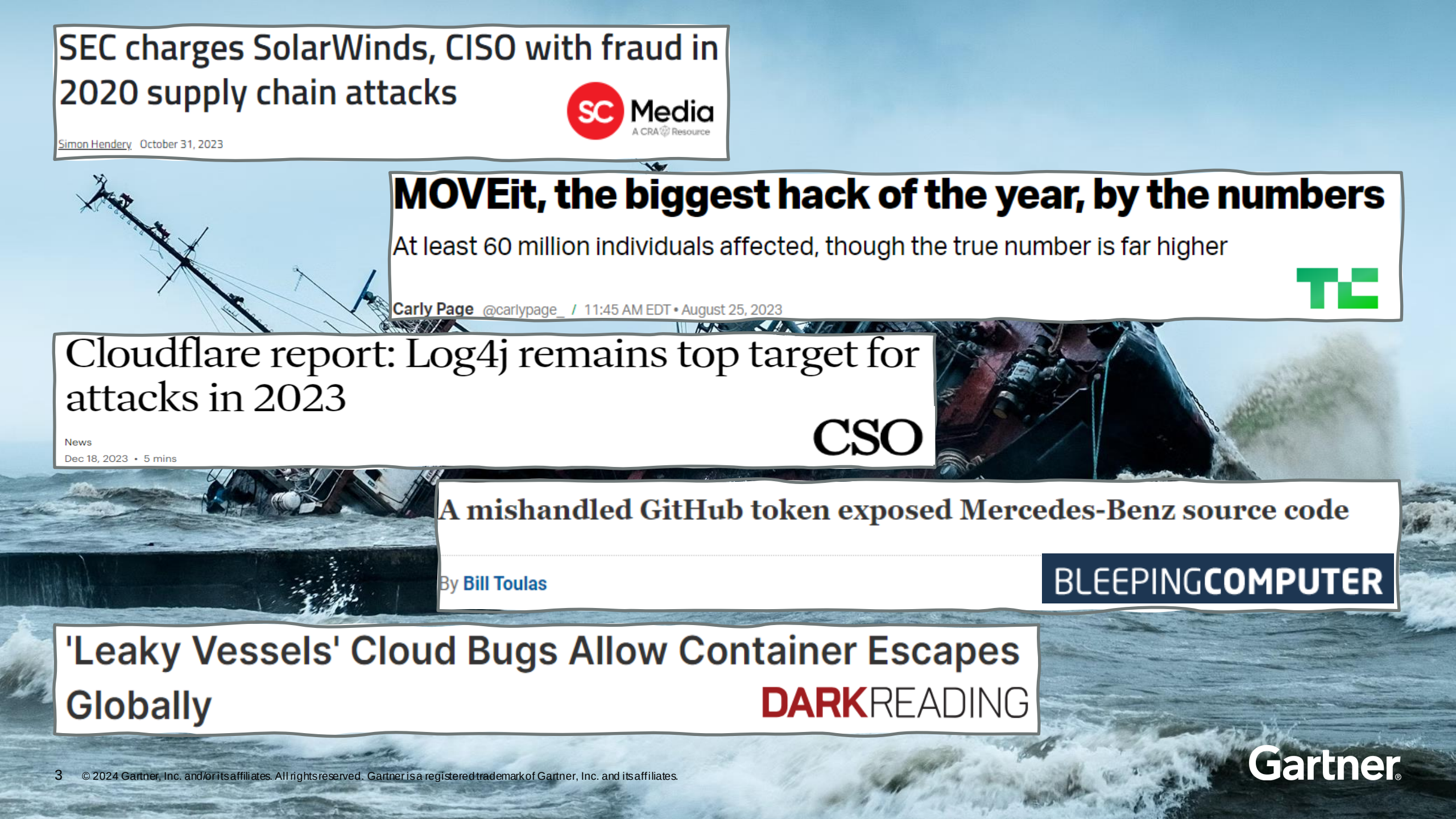

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The software supply chain consists of the components, dependencies and build environment that enable the development, integration and deployment of software artifacts.

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Trust = Visibility + Integrity + Posture

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News

Dec 18, 2023 • 5 mins

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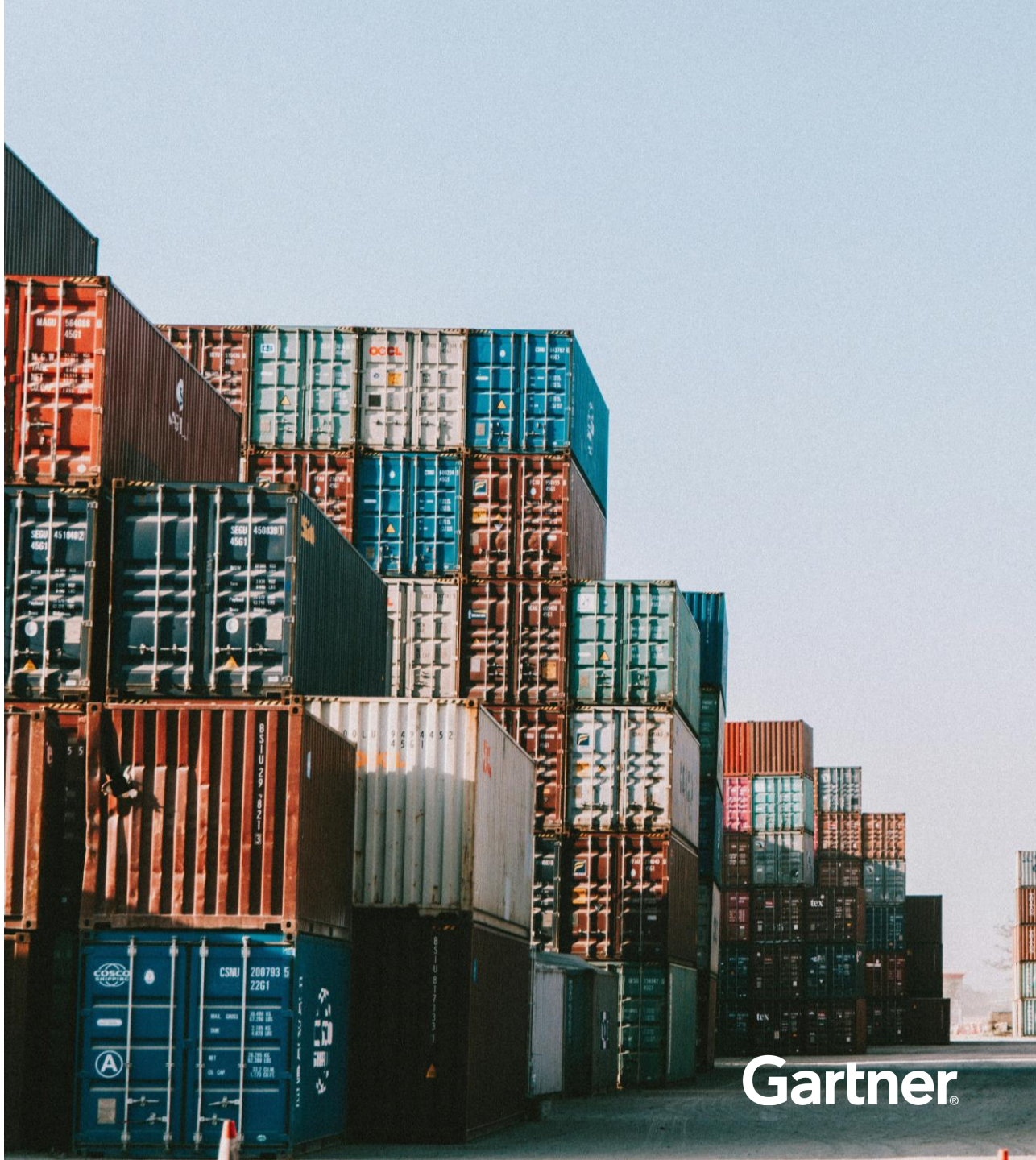
Visibility

Repository

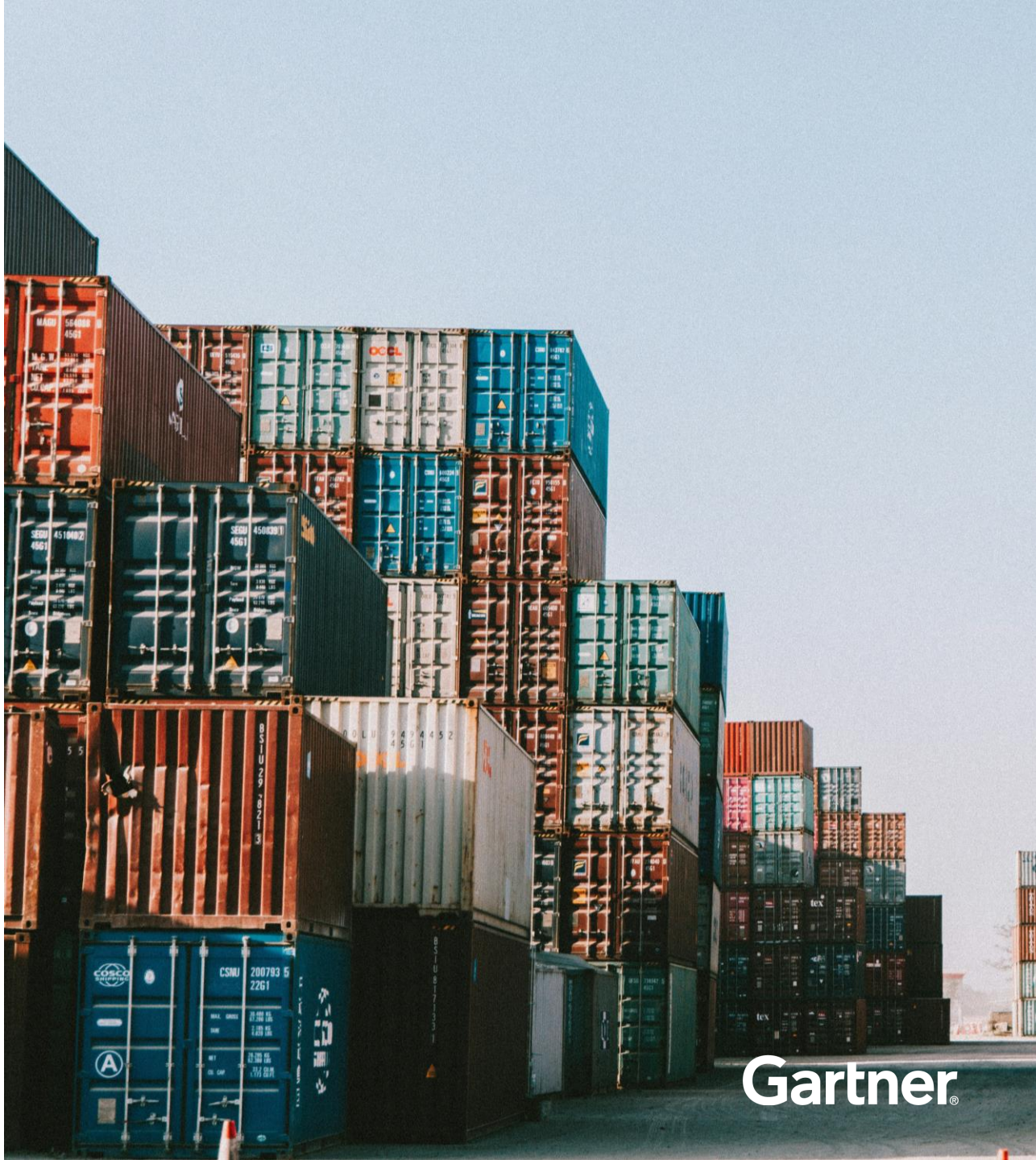
Pipeline

Artifact



Visibility

- ✓ Repository inventory
- ✓ Software composition analysis & application security testing
- ✓ Pipeline activity logging, monitoring & auditing
- ✓ Bills of material



Trust = Visibility + Integrity + Posture

Over 800 npm Packages Found with Discrepancies, 18 Exploitable to 'Manifest Confusion' The Hacker News

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Integrity

Component

Pipeline and repository

Artifact

Integrity

- ✓ Private/curated repositories
- ✓ Secrets management
- ✓ Repository controls & policies
- ✓ Signed artifacts

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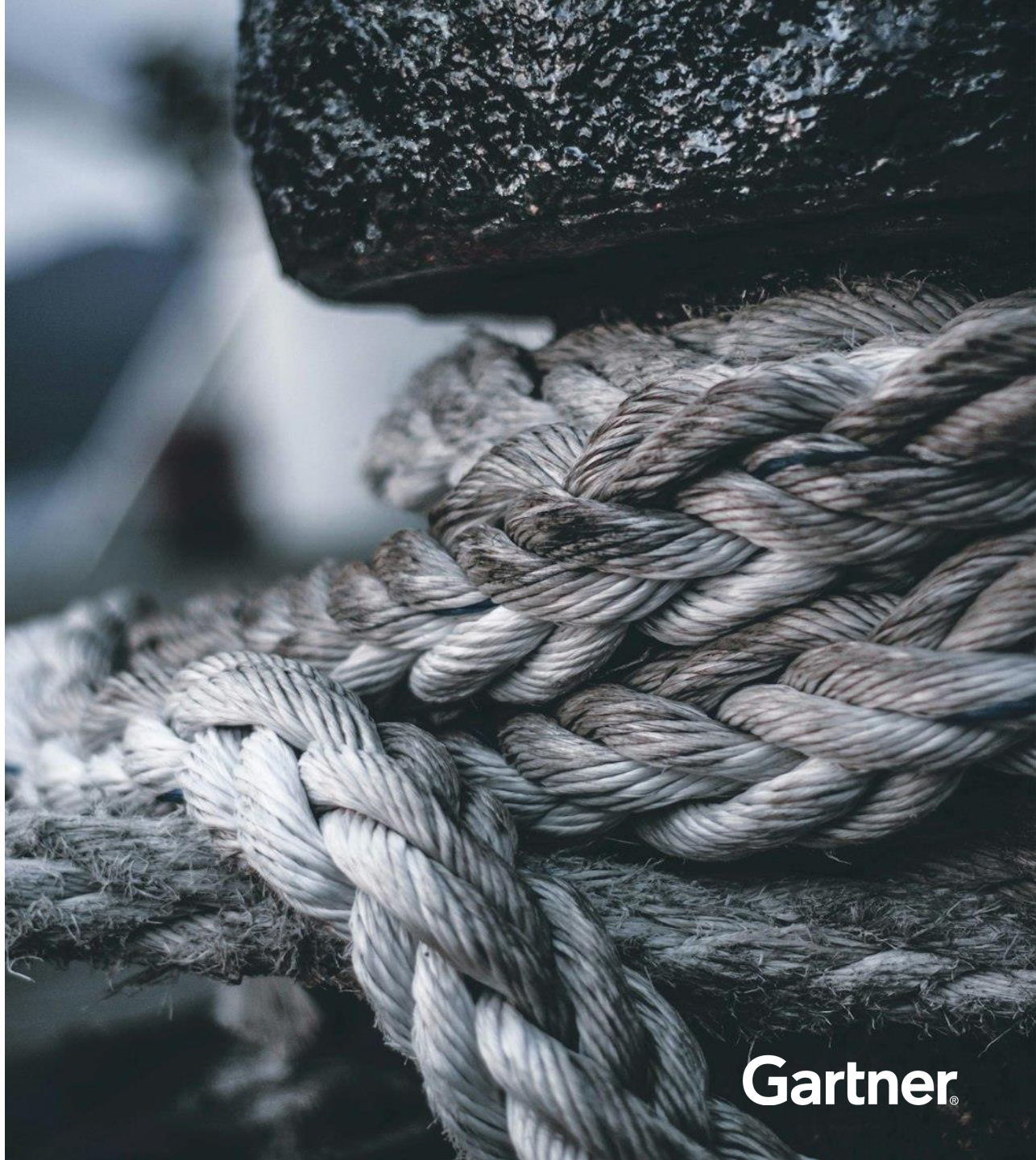
Posture

Application and infrastructure

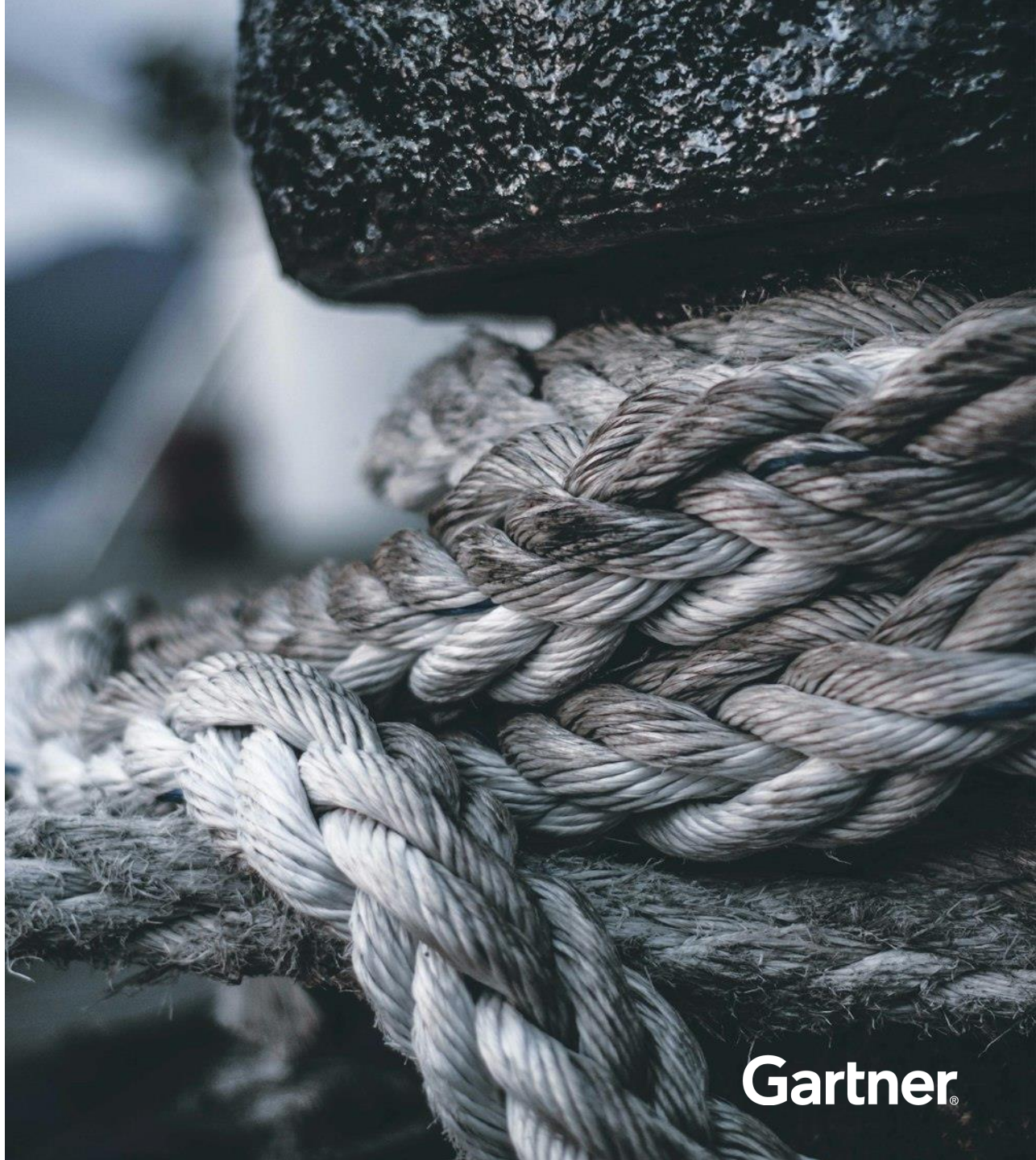
Access control

Continuous risk visibility



Posture

- ✓ Application security posture management (ASPM)
- ✓ Identity & access management (IAM)
- ✓ Runtime context



Trust = Visibility + Integrity + Posture

DevSecOps

MLSecOps

Hugging Face AI Platform Riddled With 100 Malicious Code-Execution Models

DARKREADING

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Don’t Forget Automation

“Leveraging automation helps to ensure that processes are deterministic, bolstering the attestation and verification mechanisms we rely on for supply chain security.”

Source: CNCF Paper Defines Best Practices for Supply Chain Security, Cloud Native Computing Foundation (CNCF)

Recommendations

- **Get visibility** into all aspects of the software supply chain.
- **Enforce integrity** controls on build process.
- **Improve the posture** of the supply chain infrastructure.
- **Automate!**

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  Dale Gardner, Dionisio Zumerle and Manjunath Bhat
- **Mitigate Enterprise Software Supply Chain Security Risks**
  Dale Gardner
- **The CISO’s Guide to Application Security**
  William Dupre
- **A Guidance Framework for Building an Application Security Program**
  William Dupre

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