



TERASKY

From Kubernetes to Chaos Mesh

How CNCF Projects Redefine Platform Resilience





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Unable to load presentation

Network connectivity issue



**Your computer restarted because of a problem.
Press a key or wait a few seconds to continue starting up.**

Tu computadora se reinició debido a un problema.
Para continuar presiona una tecla o espera unos segundos.

Votre ordinateur a redémarré en raison d'un problème.
Pour continuer, appuyez sur une touche ou patientez quelques secondes.

Ihr Computer wurde aufgrund eines Problems neu gestartet.
Drücken Sie eine Taste, oder warten Sie einige Sekunden, bis
der Startvorgang fortgesetzt wird.

問題が起きたため、コンピュータを再起動しました。
続けるにはキーを押すか、または、しばらく待ってから起動ください。

The Illusion of Stability: When Everything Falls Apart

This wasn't a mistake.
This was the plan all along

We're building houses of cards and
calling them skyscrapers





Sheera Frenkel ✓

@sheeraf



Was just on phone with someone who works for FB who described employees unable to enter buildings this morning to begin to evaluate extent of outage because their badges weren't working to access doors.

11:51 AM · Oct 4, 2021 · Twitter for iPhone



Error

Something went wrong, but don't fret — it's not your fault.
Let's try again.

Refresh

Log out



greg  @greg16676935420 · 3h

Can anyone see this or is Twitter broken



355.8K



775



112



4,221



Shibetoshi Nakamoto  @BillyM2k · 3h

Replying to [@greg16676935420](#)

i can't see this or respond to it



171K



87



52



2,151



Elon Musk 

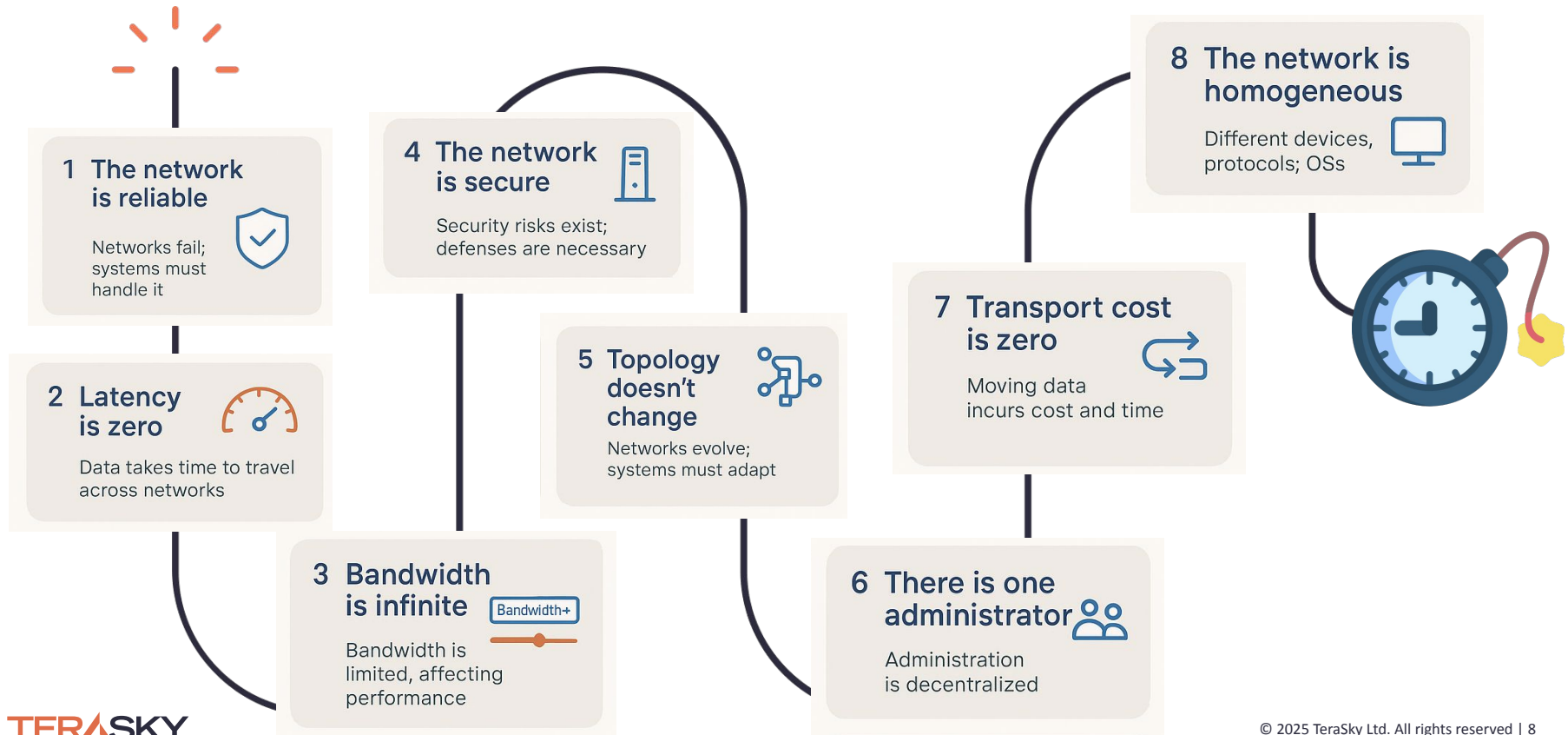
@elonmusk

Replying to [@BillyM2k](#) and [@greg16676935420](#)

Works for me

5:29 PM · Dec 28, 2022

Why Distributed Systems Will Fail ?



I wish I broke more ...

A pre-production
review project

Everything was perfect
according to industry
standards and best
practices

First day is working
smooth

“Back to the future”

Hello!

I am **Elad Hirsch**

- Tech Lead , CTO Office @ **TeraSky**
- Ambassador Associate
- Software Architect
- Tech Advocate



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Projects Working in Harmony - Kubernetes

The foundation that enables everything else

Topology doesn't change

Self-healing capabilities through controllers and reconciliation

Liveness, Topology awareness, Replicas,
Affinity, PDB

Projects Working in Harmony

Pixie:

The all-seeing observer

eBPF-based instrumentation with zero code changes

Capturing network flows, application metrics, and resource usage

L7 protocols visibility

Projects Working in Harmony

Argo/Flux:

Beyond just deployment

There's one administrator

GitOps principles for declarative deployments

Progressive delivery patterns (Blue/Green, Canary)

GitOps tools aren't just a deployment tool —they are continuous verification

Projects Working in Harmony

Chaos Mesh:

Beyond server shutdown

Network is reliable, latency is zero, bandwidth is infinite

Orchestrated failure that tests the whole system

Pod failures, network, JVM, time offset and more

The practice range where we ~safely
experience catastrophe

The Antifragile Revolution: Breaking Things on Purpose

From uptime pride to uptime fear

The shift from "prevent failure" to "embrace failure"

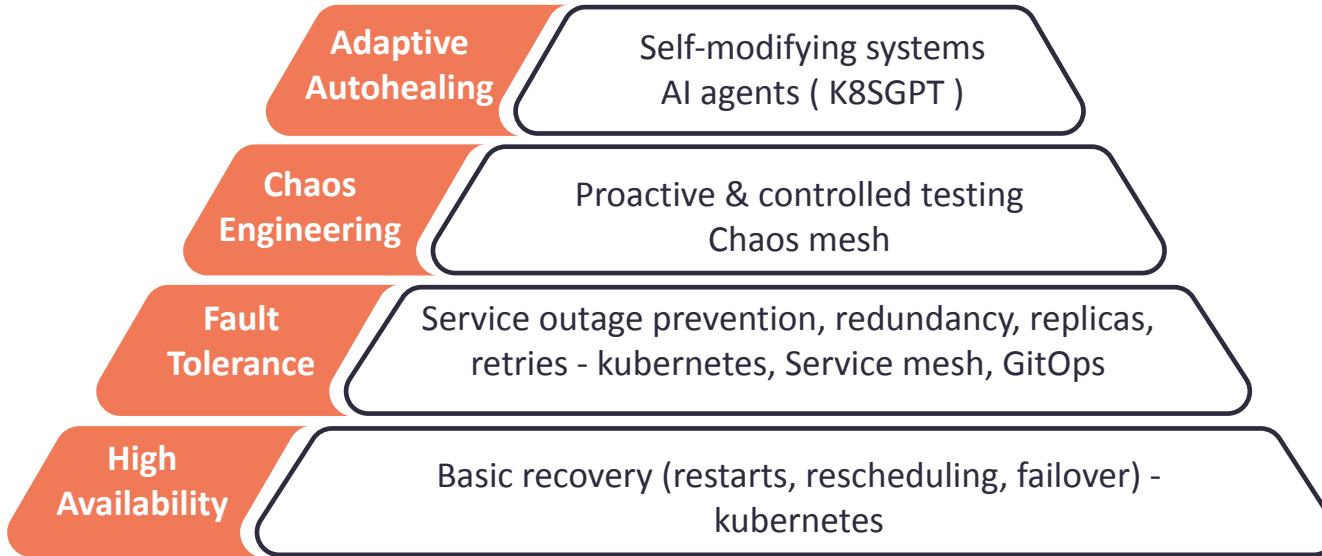
From Netflix's Chaos Monkey to chaos engineering

Recovery isn't the goal. Learning is.



Demo...

The Resilience Hierarchy of Needs



Your systems will fail! The only question is:

WILL WE LEARN FROM IT

NOW

OR LATER?...

And don't forget about humans

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Thank You!

Contact me or catch for questions after the talk

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