ANAPAYA
The SCION Company

SCION all the way to the user

Services invisible to everyone else

Sam Hitz, CTO Anapaya · SCION Day 2026, ETH Zurich



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Anything on the Internet is a target

If a service is reachable on the Internet, it can be discovered, scanned and attacked.

Every exposed service expands your attack surface.



31%

of breaches now start with an exploited vulnerability



7X

jump in breaches via exploited VPNs and edge devices (3% → 22%)



1 in 4

exploited vulnerabilities are attacked on or before disclosure day



43 days

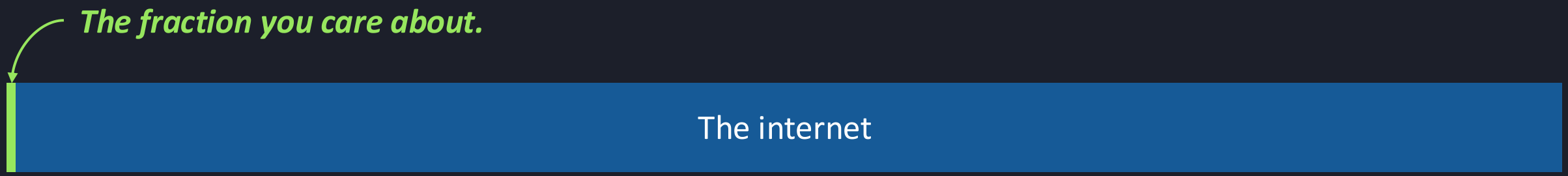
median time to fully patch an actively exploited vulnerability

Patching, filtering and scrubbing are reactive measures.
They do not remove the exposure that makes every attack possible.

Sources: Verizon DBIR 2025 & 2026, VulnCheck, 1H 2026.

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*Imagine the internet consisted of **your users** only.*



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The challenge: getting SCION to end users



Devices don't speak SCION

Phones and browsers only know the public internet.



Users install nothing

No VPN, no settings, no extra app.



Services stay as they are

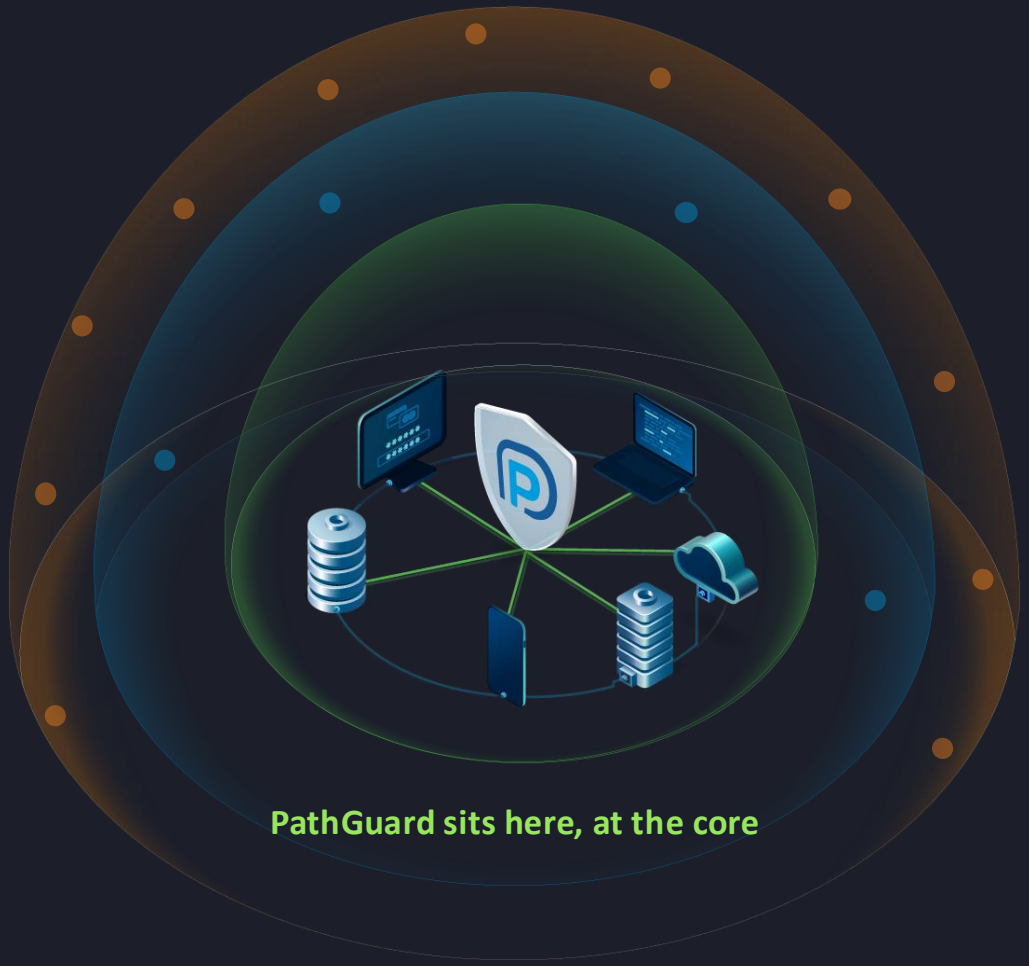
No one rewrites a working backend.

Our answer: PATHGUARD

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PathGuard shrinks your attack surface a millionfold

Think of your service inside three nested domes.



20 billion devices can reach you *Public Internet*

Anyone online can find and probe your service.

20 million can reach you *SCION Internet*

A separate network run by vetted providers.
Only SCION hosts get in.

20 thousand can reach you *Anapaya PathGuard*

Only authorized users get a path to your service. For everyone else, it doesn't exist.

PathGuard works at the core: native SCION from the user's device to your service, with nothing in between.

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PathGuard: SCION from the app to the service



App or browser

PathGuard SDK



SCION Internet

Entered through an ISP's SNAP



Gateway

PathGuard



Service

Unchanged



Nothing to install

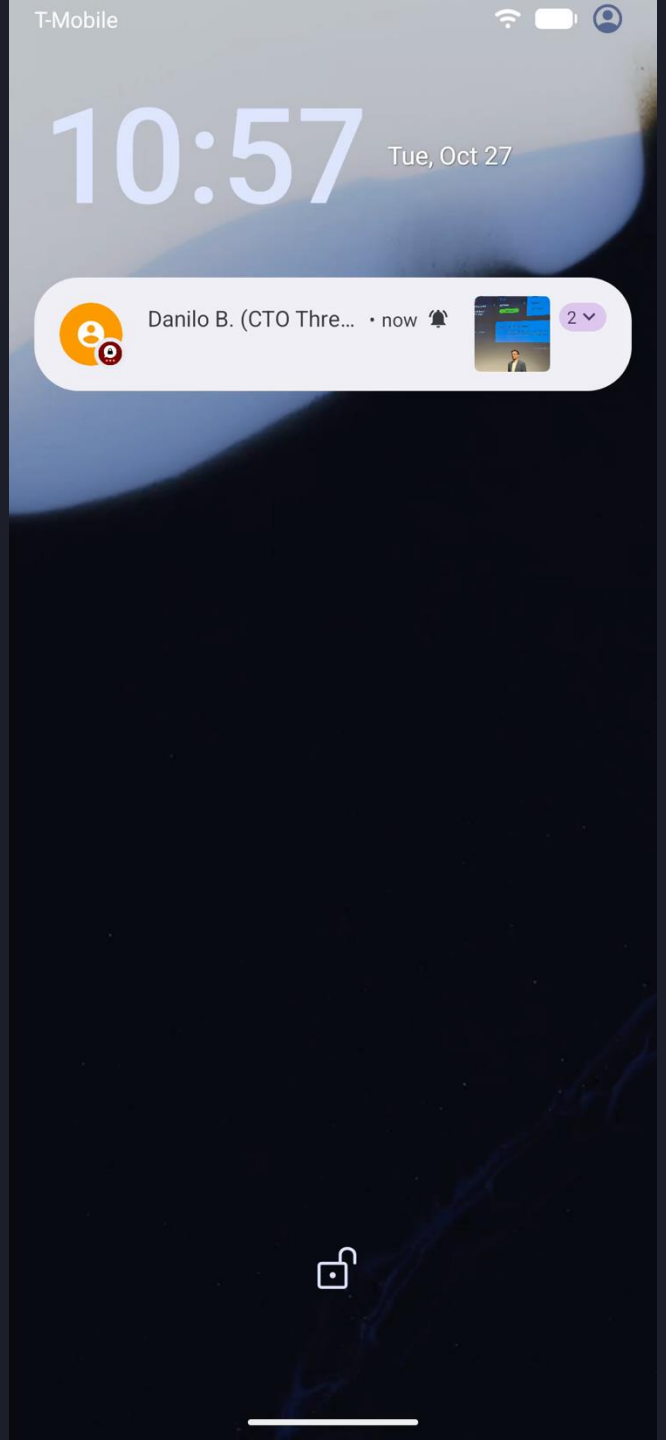
The SDK sits inside the app or the web page. Users just use it.



Invisible services

Only authenticated users get a path. For everyone else the service does not exist.

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