



Next-Generation App Shielding

The complete protection
portfolio: From instant
deployment to next-gen
RASP

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The new reality of mobile app threats

Mobile applications have become the primary digital channel for banking activities. This shift has radically expanded the attack surface: Mobile apps now process sensitive credentials, financial transactions, personal data, and proprietary business logic, often in hostile, uncontrolled environments.

Traditional security approaches were not designed for this new reality, where applications operate in dynamic and often untrusted environments. As a result, relying on static defenses, infrequent updates, and reactive controls creates critical security gaps, leaving mobile applications increasingly vulnerable to sophisticated, real-time threats.

Tiers of protection

OneSpan addresses this challenge with two complementary tiers of protection, so every organization can find the right fit.

No-code post-compile app shielding

Deploy powerful runtime protection instantly — no source code changes required. Protect existing apps in minutes and start blocking threats from day one.

Fast.
Simple.
Effective.

Next-Generation App Shielding with active hardening

For organizations that demand the highest level of adaptive, AI-powered protection. Active hardening continuously reshapes the app's defenses so attackers never face the same barrier twice.

Adaptive.
Proactive.
Resilient.

Both solutions share a core design principle: Strong protection that never disrupts the user experience.

Why traditional RASP has limits

Runtime Application Self-Protection (RASP) was a major step forward when introduced. However, first-generation RASP implementations share structural constraints that limit their effectiveness against today's threat actors:

- **Detection-centric** approaches that identify threats but do not prevent future attacks
- **Static protection** logic that attackers can observe, analyze, and work around
- **Reactive responses**, relying on alerts instead of adaptive defense
- **High false-positive** rates, leading to legitimate users being blocked, app sessions interrupted, or functionality degraded—ultimately eroding user trust, increasing support costs, and harming app adoption and retention

Once an attacker understands the protection logic, traditional RASP becomes predictable, which reduces its effectiveness over time.

Next-Generation App Shielding: A new paradigm



OneSpan's Next-Generation App Shielding moves beyond classic RASP by introducing continuous, adaptive, and active protection mechanisms that evolve together with the threat landscape.

Rather than merely detecting attacks at runtime, our solution actively hardens applications, dynamically reshaping their security posture so attacks become increasingly costly, unstable, and ineffective.

Key differences at glance

Traditional RASP	OneSpan Next-Gen App Shielding
Detects known threats	Actively disrupts and prevents attacks
Static protection logic	Active hardening: Dynamic and adaptive protection
One-size-fits-all defenses	Context-aware security controls
Reactive alerts	Proactive risk mitigation

Protecting mobile apps against the three main attack vectors

Modern mobile threats target more than just code. They exploit the app, the network, and backend services.

OneSpan's Next-Generation App Shielding protects applications across the three most critical attack vectors, embedded directly inside the app.

1. Mobile apps & device attacks

Attackers target the app or device to manipulate runtime behavior, extract sensitive data, or bypass controls using rooting, hooking, emulation, and automation.

Solution: Embedded runtime protection with active hardening disrupts manipulation and prevents repeatable attacks, without affecting legitimate users.

2. Network Attacks

Data in transit can be intercepted, replayed, or modified, especially on untrusted or compromised networks.

Solution: App-level protection safeguards secure communication, keeping data protected even when network conditions are hostile.

3. Attacks on backend API

APIs are exploited through fake apps, bot automation, and unauthorized calls that often bypass traditional perimeter defenses.

Solution: Only trusted, unmodified app instances can access backend services, reducing fraud, automation, and abuse.

One shield. Three vectors covered.

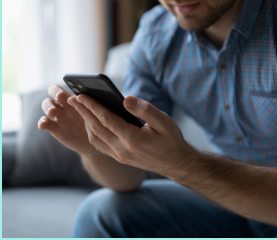
By embedding security directly into the mobile app and continuously strengthening it through active hardening, OneSpan delivers a unified protection layer that:

- Disrupts attacks at the device and app level
- Secures data in transit
- Restricts access to backend APIs

All without introducing performance penalties, user friction, or high false-positive rates.

Three integration options. One security platform.

OneSpan Next-Gen App Shielding adapts to different development models and maturity levels through three integration approaches, allowing organizations to deploy protection quickly without sacrificing depth or control.



No-code integration

Protection is applied without modifying application source code.

- Fastest deployment model
- Ideal for existing apps and rapid rollouts
- No impact on development workflows

Best for: Immediate protection with minimal effort.

Step-code integration

Selective code integration for increased control and customization.

- Balanced approach between speed and flexibility
- Enables tailored protection for specific app flows
- Fits naturally into CI/CD pipelines

Best for: Teams seeking stronger protection with moderate development involvement.



Master-code integration

Full SDK integration directly into the application.

- Maximum protection coverage
- Full support for advanced in-app protection and active hardening
- Highest level of control and security depth

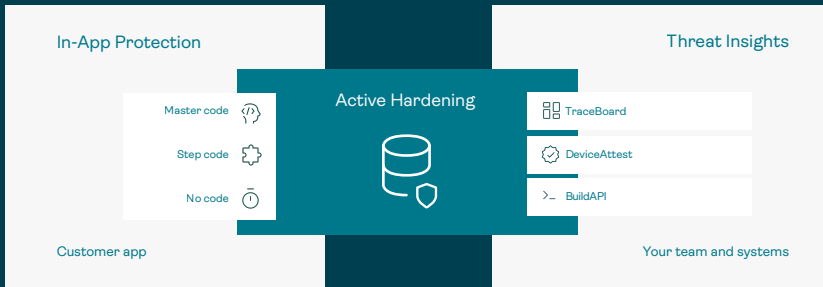
Best for: Security-critical applications and long-term protection strategies.

Secure by design — regardless of integration level

All three integration options deliver:

- Runtime in-app protection
- Active hardening capabilities
- Low performance impact
- Protection without degrading user experience

Organizations can start where they are today and evolve their protection strategy over time, without changing platforms.



Three layers of protection

- **In-app protection:** Protect the app directly on the device using master-code, step-code, or no-code integration, depending on the level of control and effort your team needs.
- **Active hardening:** Add adaptive runtime protection that helps the app resist tampering, reverse engineering, and live attack techniques without degrading the user experience.
- **Threat insights:** Extend protection beyond the app with TraceBoard, DeviceAttest, and BuildAPI, which turn app telemetry into visibility, automated enforcement, and backend integrations.

How it fits together: The result is one architecture that starts inside the app, strengthens protection at runtime, and gives your teams the insight and response options needed to act at scale. The result is one architecture that starts inside the app, strengthens protection at runtime, and gives your teams the insight and response options needed to act at scale.

Active hardening: The strategic differentiator

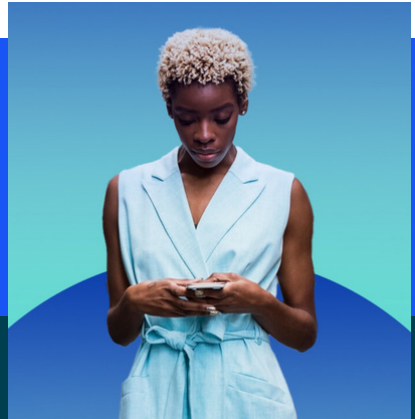
Active hardening is the defining innovation of OneSpan's approach.

Where traditional solutions deploy fixed protection logic, active hardening continuously reshapes the app's security behavior, ensuring attackers never face the same defense twice.

Why active hardening changes the game:

- **Breaks attack repeatability** by eliminating static patterns
- **Introduces uncertainty**, increasing attacker effort and cost
- **Reduces false positives** through adaptive enforcement
- **Maintains protection strength over time**, even against skilled adversaries

Every protected app instance becomes a moving target, dramatically reducing the effectiveness of automated tools, scripted attacks, and reverse-engineering efforts.



Business impact



Stronger security outcomes:

- Reduced fraud and abuse
- Protection against zero-day and emerging threats
- Safeguarding of brand, IP, and sensitive data



Better user experience:

- Minimal runtime overhead
- No disruption for legitimate users
- Fewer erroneous blocks and session interruptions



Lower operational risk:

- Reduced incident response workload
- Fewer customer complaints and support tickets
- Future-proof protection without constant tuning

Built for enterprise deployment

OneSpan is designed for security-critical, large-scale environments.

Key characteristics:

- Android and iOS support
- SDK-based integration
- CI/CD and DevSecOps-ready
- Scales across millions of users and sessions

Industries served include financial services, digital banking, insurance, healthcare, mobility, and enterprise applications.

Business value: Security without compromise

Strengthen security posture:

- Reduce fraud, data theft, and IP loss
- Protect against zero-day and unknown threats
- Minimize exploit longevity

Optimize performance & user experience:

- Lightweight runtime footprint
- No visible impact on legitimate users
- Security that operates silently in the background

Reduce operational overhead:

- No need for constant manual updates
- Cloud-driven control and policy management
- Seamless integration into existing CI/CD pipelines

Ready to protect your mobile apps?

Secure your mobile apps now with flexible protection that scales from no-code deployment to adaptive, next-generation defense with OneSpan.

Contact us at onespan.com



About OneSpan

OneSpan is a global leader in digital security, trusted by thousands of enterprises across 100+ countries—including more than 60% of the world's 100 largest banks—to safeguard digital accounts, secure financial transactions, and prevent fraud. Our award-winning solutions provide passwordless authentication, digital transaction security, and advanced mobile application protection, helping organizations meet the highest security standards and global compliance requirements. As cyber threats grow more sophisticated, OneSpan delivers cutting-edge technology to safeguard customers, mitigate risks, and ensure trust in every digital interaction.

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