

DATA SHEET

Smart Contract Penetration Testing

Comprehensive security assessment of smart contracts and Web3 infrastructure to identify vulnerabilities and defend blockchain-based platforms against real-world attacks.

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Key Benefits

IDENTIFY VULNERABILITIES

Identify vulnerabilities in smart contracts and surrounding infrastructure

DEFEND AGAINST ATTACKS

Defend blockchain-based platforms and assets against real-world attacks

ASSURE STAKEHOLDERS

Assure your stakeholders that remediations are effective

Capabilities Overview

Praetorian takes a multi-layered approach to Web3 security. The core component is a methodical review of the smart contracts' source code. Our engineers possess the necessary expertise to comprehensively identify vulnerabilities in domain-specific languages such as Solidity and Vyper.

A thorough code review that combines manual and automated techniques can surface vulnerabilities related to reentrancy, price manipulation, paths to unprotected token and value transfers, and authorization issues.

- **Transaction Ordering Attacks:** Assess resilience against MEV bots and malicious miners/validators who front-run profitable transactions
- **Block Property Manipulation:** Identify vulnerabilities involving block timestamp manipulation for lottery/random value attacks
- **Denial of Service:** Locate unbounded loops and anti-patterns that could allow attackers to manipulate contract execution costs
- **Infrastructure Security:** Evaluate blockchain infrastructure protections against validator takeover, 51% attacks, and bridge vulnerabilities

Simulation Testing: Throughout a smart contract engagement, Praetorian's domain experts use industry-standard static analysis tools in conjunction with their thorough manual source code review. After identifying one or more potential vulnerabilities, Praetorian will simulate attacks in a local fork/simulated environment to determine the real-world impact without disrupting the customer's business operations.

Why Praetorian

At Praetorian, we understand that discerning organizations are looking for a cybersecurity partner in today's connected world. Our clients gain maximum benefit from our tailored approach to each engagement, our deep technical expertise, and our focus on providing the best possible client experience.

You can rely on us to ask deep questions, work closely with your teams, and provide direct, clear feedback on what we find. Our team keeps your bigger picture in mind in order to help your company understand both the ground truth about your security program and its implications for your company's future.

Who Needs This Service

- **Developers** of decentralized applications looking to provide assurance to their internal or external stakeholders
- **Counterparties** seeking an independent risk assessment before executing a transaction via smart contract
- **Businesses** who are just starting out in the decentralized space and want additional clarity about where the risks really are

Workflow



Deliverables

At the completion of the engagement, Praetorian experts provide the following:

Executive Summary

Concise explanation of engagement goals, significant findings, business impacts, and strategic recommendations.

Engagement Outbrief

Similar to the executive summary, presented to the audience of your choosing for interactive discussion.

Technical Findings Report

Full descriptions of vulnerabilities, each including a severity rating, instructions to reproduce, and recommendations to mitigate.

About Praetorian

Praetorian is an offensive security engineering company whose mission is to make the digital world safer and more secure. Through expertise and engineering, Praetorian helps today's leading organizations solve complex cybersecurity problems across critical enterprise assets and product portfolios.

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Ready to Secure Your Smart Contracts?

Contact us today to discuss your Smart Contract Penetration Testing needs and discover how Praetorian can help you identify and remediate vulnerabilities in your Web3 applications.