praetorian

DATA SHEET

Automotive Penetration Testing

KEY BENEFITS

- **Prevent** automobile theft, control failures, and accompanying regulatory issues
- **Verify** the robustness of fail-safe mechanisms
- **Prepare** for the introduction of autonomous driving subsystems

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.

CAPABILITIES OVERVIEW

Praetorian offers automotive security assessment services that assure our customers that their vehicles and components provide a safe operating experience. Praetorian's past work in automotive security has involved various automotive platforms, from production vehicles to level four autonomous R&D prototypes. Our expertise spans all elements of modern vehicle platforms, including ECUs, CAN networks, MISRA-compliant source code, key fobs, infotainment systems, mobile applications, or autonomous vehicle technology.

Targeted vs. Broad Approach

While we tailor every project to the client's needs, they tend to fall into two basic categories: targeted and broad. Clients who are introducing a new feature or functionality benefit from engagements that narrowly target a particular vehicle subsystem, such as fuzz testing of AUTOSAR-compliant ECU software.

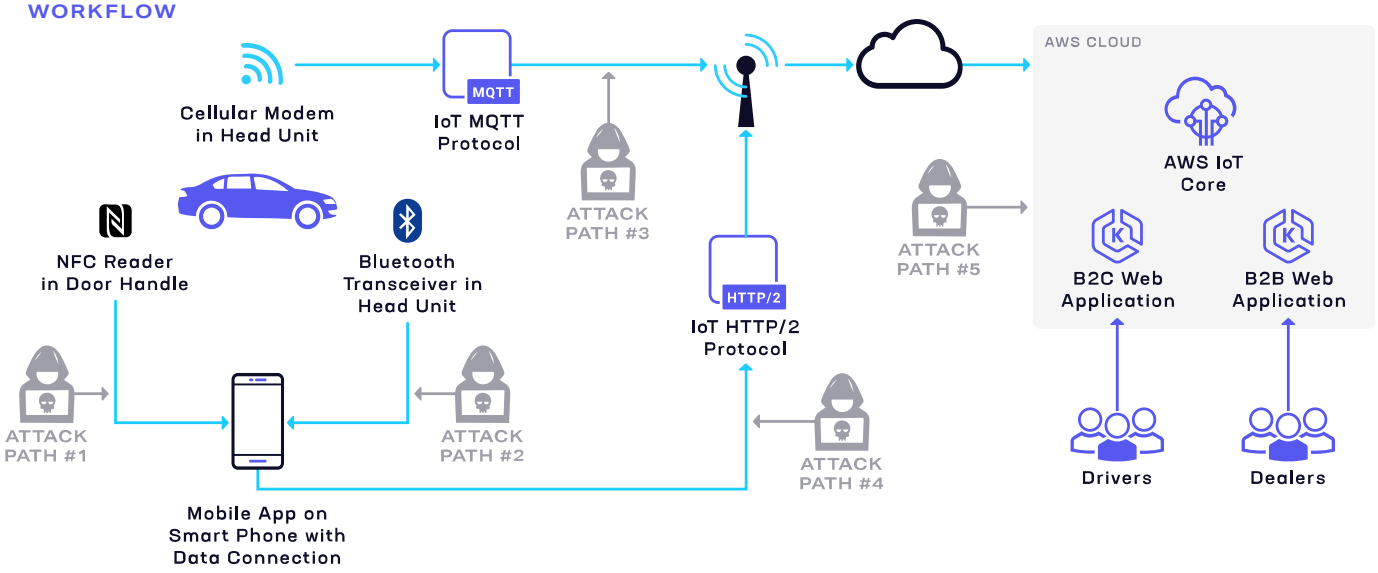
Conversely, a broad-based review of the entire vehicle platform is useful for R&D prototypes or when a manufacturer is supporting a specialized use case for their vehicle. In either scenario, we enumerate the designated attack surface and prioritize attack paths based on risk profiles developed with the client. Activities such as these are tailored to satisfy the penetration testing guidelines of ISO/SAE 21434.

How We Do It

Praetorian engineers use state-of-the-art tools to conduct a deep analysis, the results of which they then use to implement credible attacks based on the client's goals. Some potential attacks include unlocking the vehicle, disabling the interlock, interfering with control systems, overriding restrictions built into infotainment systems, or compromising mobile application accounts.

Following the active testing phase, Praetorian engineers work with the customer to develop pragmatic remediations that align with both security and business needs. Many security issues can be resolved through risk mitigation techniques and secondary security controls.

WORKFLOW



WHO NEEDS THIS SERVICE

- **OEMs** seeking to maintain good relationships with owners, dealers, regulatory agencies, and the public
- **Tier 1 suppliers** seeking to provide trusted components at a competitive price
- **Regulatory agencies** seeking to understand risk and responsibilities in an evolving industry

DELIVERABLES

Executive Summary

A high level, concise explanation of the engagement goals, significant findings and their business impacts, and strategic recommendations.

Presentation Slides

Similar to the executive summary, presented to the audience of your choosing

Detailed Report

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

→ Depending on the service level, the report may also include a threat model with system diagram, and detailed descriptions of effective controls encountered during the engagement.

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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.