



# Qualcomm Haven™ Security Platform

Hardware-based protection, user authentication,  
and device attestation

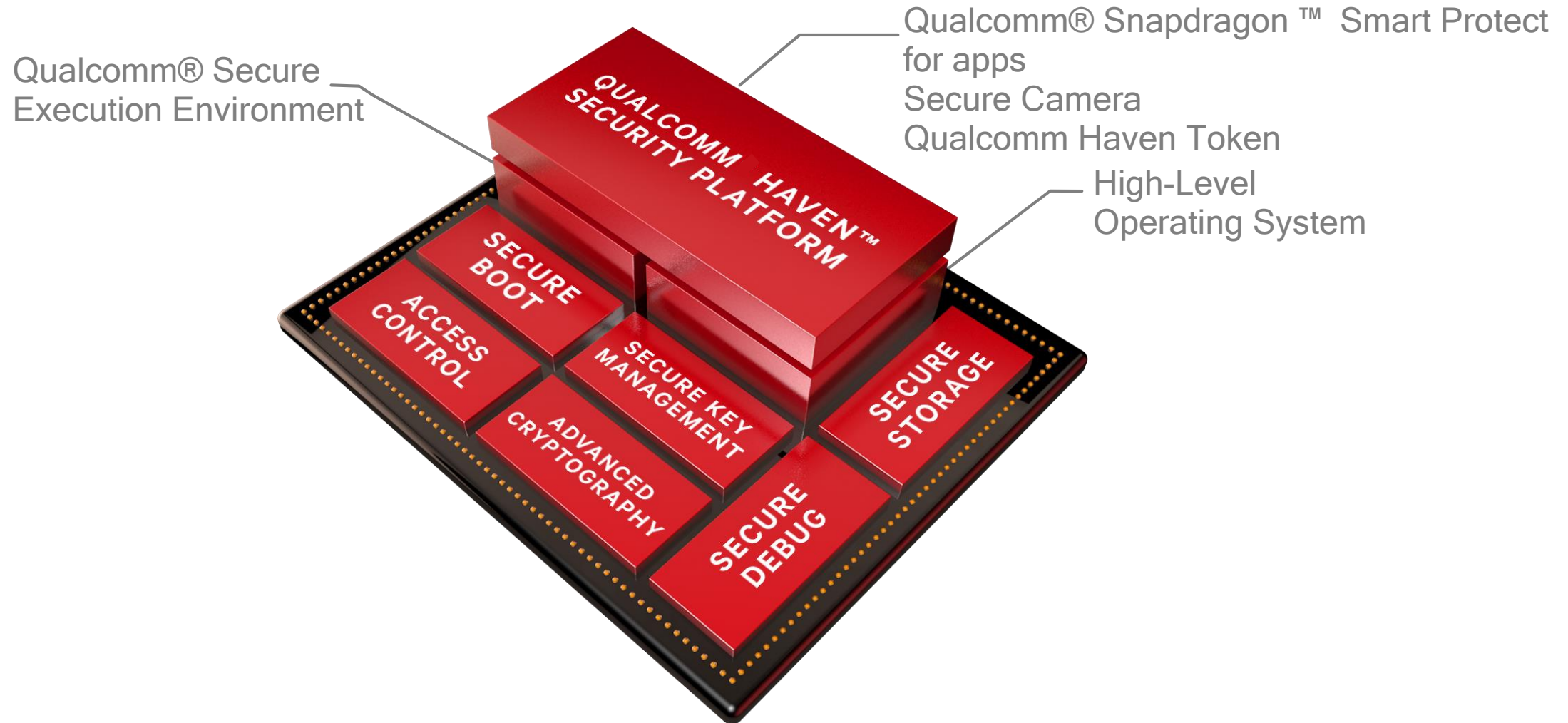


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# Qualcomm Haven Security Platform

Hardware-based protection, user authentication & device attestation



# Qualcomm Haven Security Platform

Hardware-based protection, user authentication & device attestation

## User Authentication

### 1 Pin and Fingerprint

Secure UI  
Secure Fingerprint



### 2 Eye based

Secure Camera



Premium Security

## Device Attestation

### 1 Software Authentication

Secure Boot



### 2 Malware Detection

Smart Protect



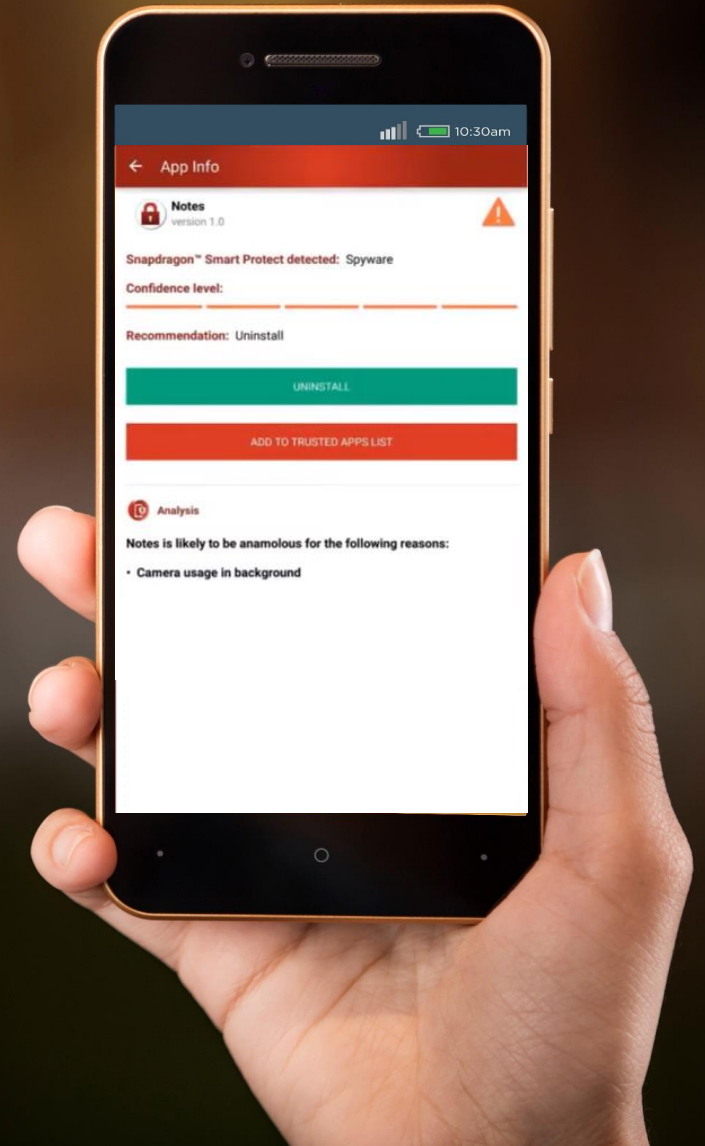
### 3 Hardware Authentication

Hardware Token



# Snapdragon Smart Protect

Designed to support robust, real-time detection of zero-day malware, using machine-learning-based behavioral analysis



# Snapdragon Smart Protect

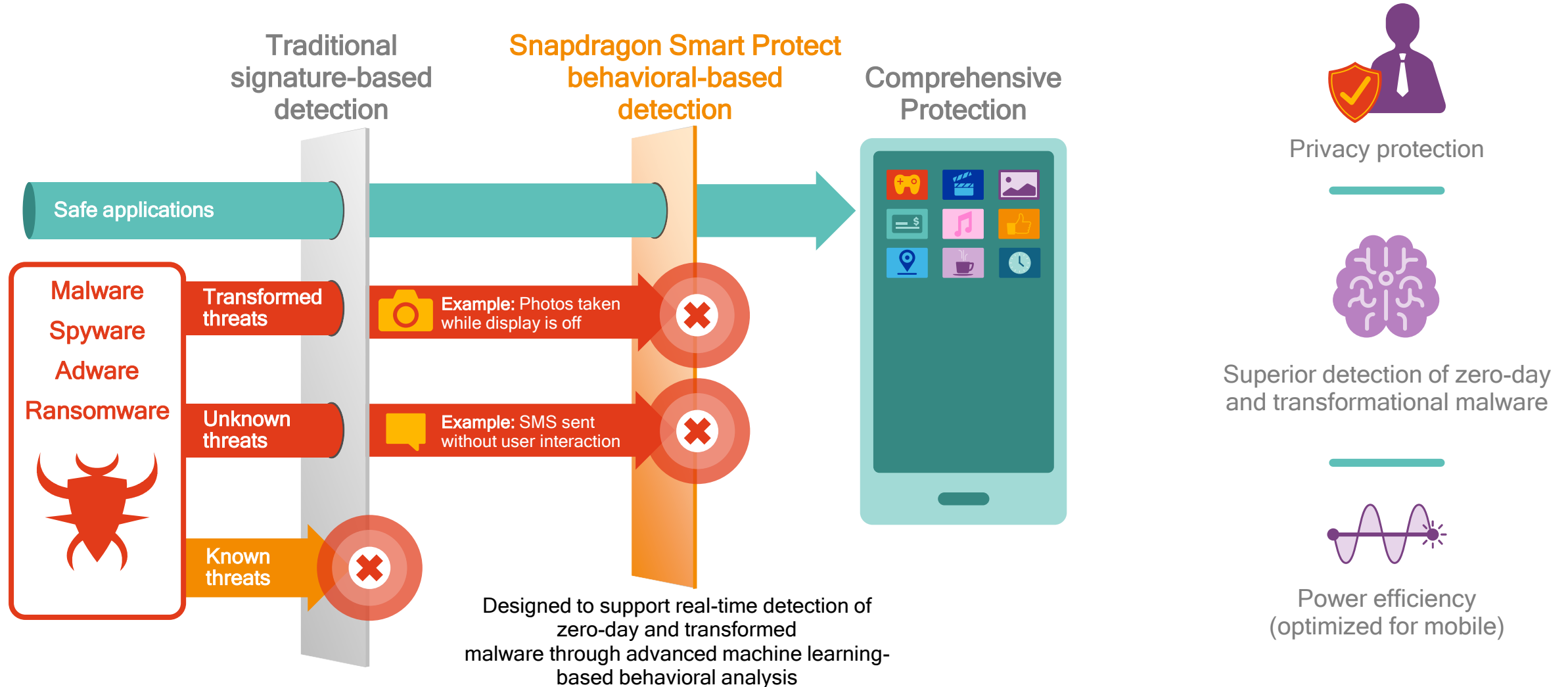
On-device intelligent threat detection in virtually real-time

- Thousands of new mobile malware apps are generated daily
- Traditional anti-malware apps often fail to detect and stop many of them
- Snapdragon Smart Protect outsmarts the toughest malware attacks by detecting and classifying spyware, adware and malware
- Virtually always-on app behavior analysis using machine learning technology
- Engineered to detect suspicious activity from “zero-day” malware
- Complements existing signature-based anti-malware solutions



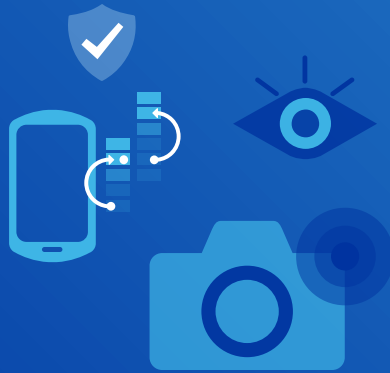
# Snapdragon Smart Protect

On-device intelligent threat detection in virtually real-time



# Secure Camera

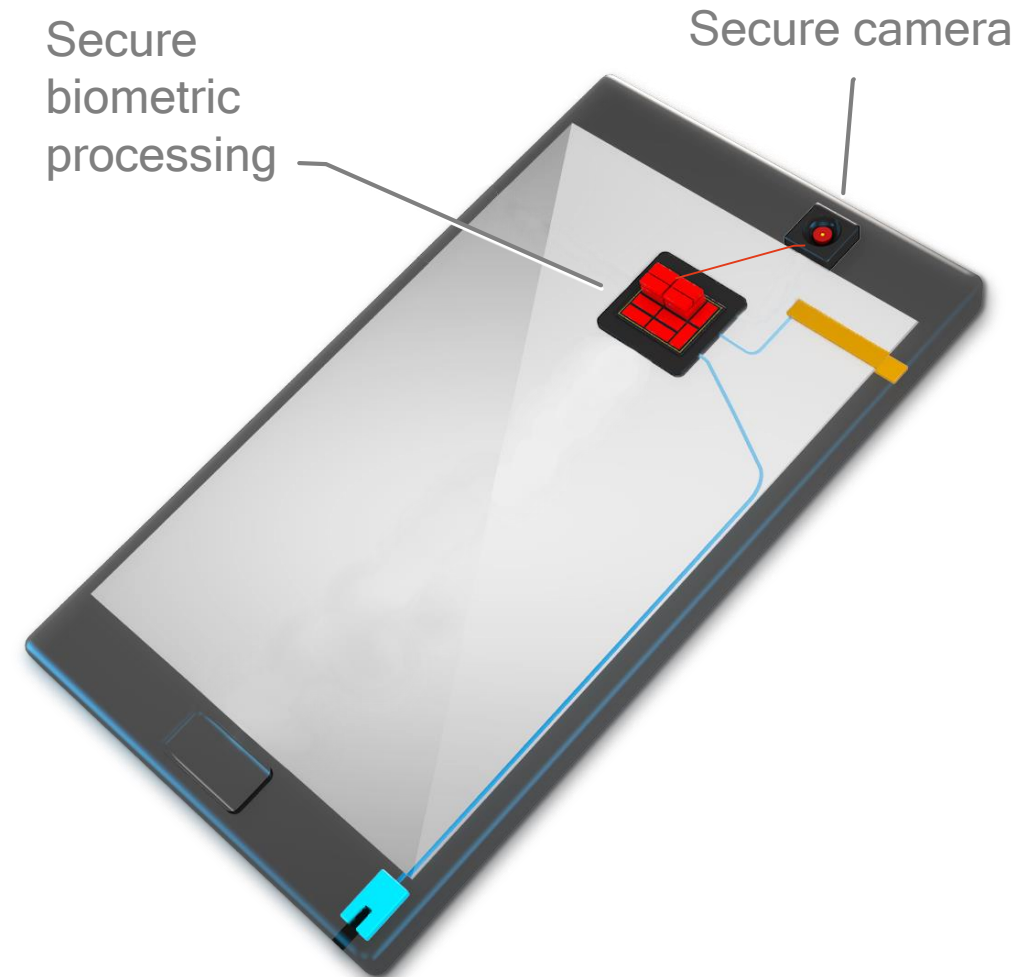
Secure hardware authentication  
for camera-based biometrics



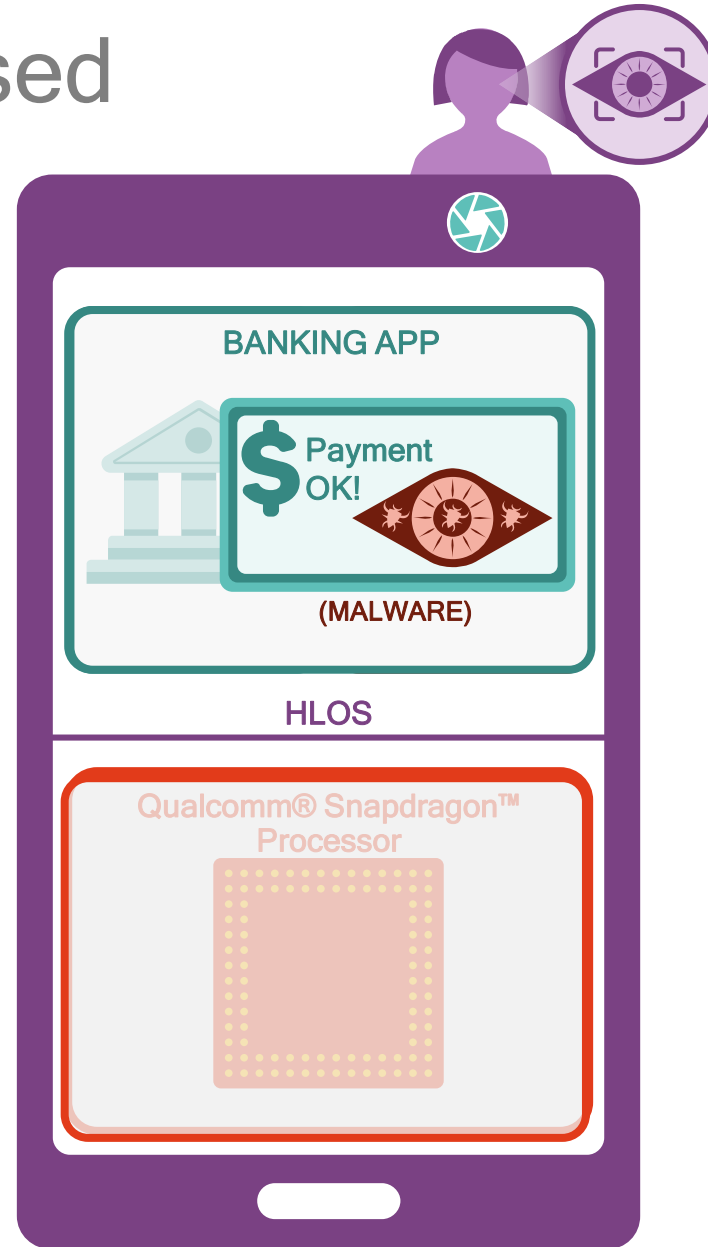
# Secure Camera

## Secure hardware authentication for camera-based biometrics

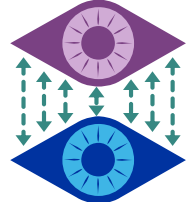
- Biometric authentication is only as secure as the physical inputs to the biometric sensor
- Attackers have demonstrated how biometric sensors are bypassed using physical & remote attacks
- Eye-based authenticators require stronger security: protecting the full link between the camera and processor
- Secure Camera is designed to deliver hardware-based biometric security!



# Standard eye-based authentication

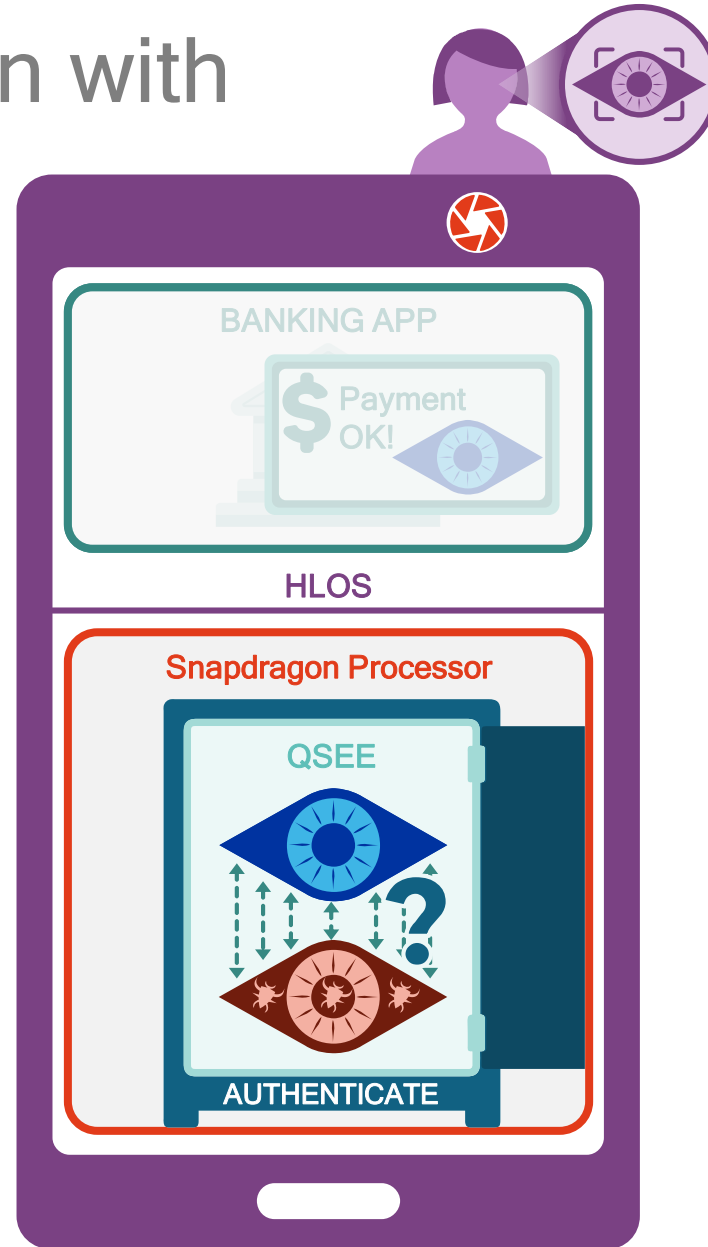


 **1** Eye Biometric Capture

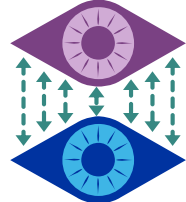
 **2** Eye Biometric Processing and Storage

 **3** Eye Biometric Display

# Eye authentication with Secure Camera



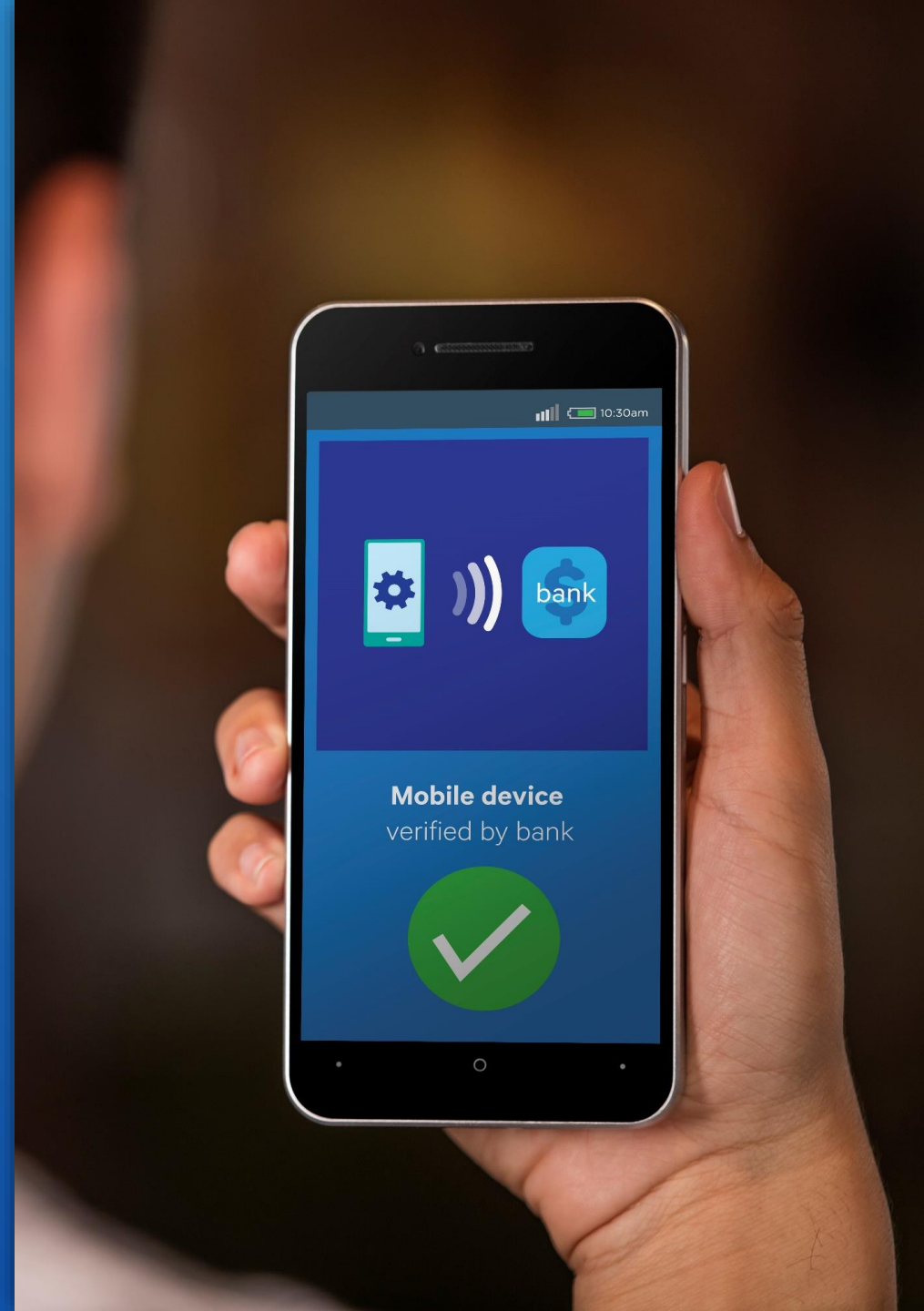
 **1** Eye Biometric Capture

 **2** Eye Biometric Processing and Storage

 **3** Eye Biometric Display

# Hardware Token

Secure hardware-based  
device attestation



# Hardware Token

## Secure hardware-based device attestation

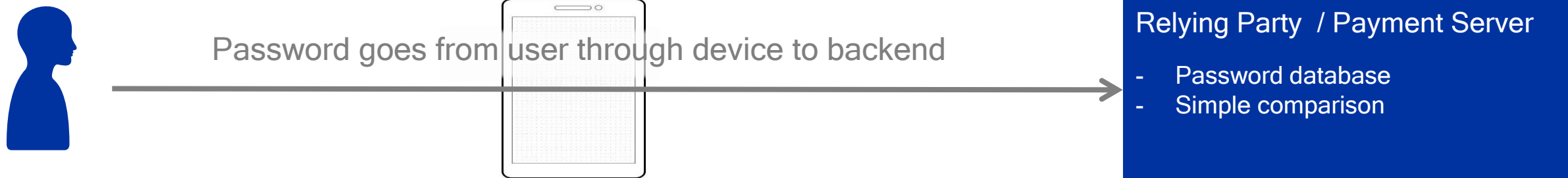
- High-value mobile services require greater assurance than just user authentication
- Compromised devices pose financial risks to users, manufacturers, and financial institutions
- Today's software device authentication methods are vulnerable to remote privilege escalation and root attacks
- Hardware Token offers the ultimate device attestation
- Enables resilient online transactions with a proven identity



# Hardware Token

Secure hardware-based device attestation

## User-based Authentication



## Haven-based Authentication



Qualcomm Haven  
platform provides a  
comprehensive security  
solution for user  
authentication and  
device attestation

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Security solutions for  
your data and your  
device.



# Thank you



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