



# Protecting NextGen Content

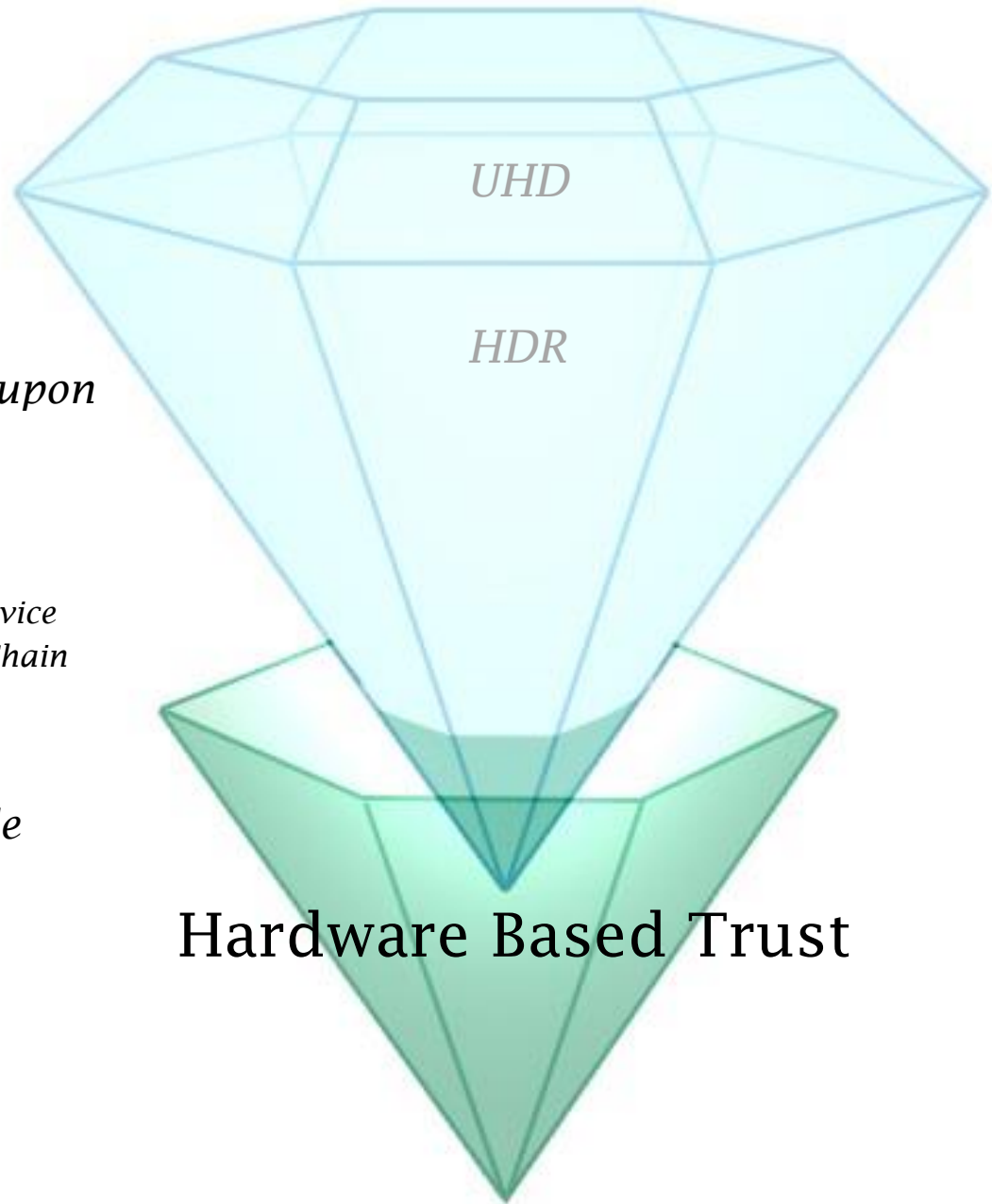
*based on Movielabs ECP Specification*

*Heather Field*

*20th Century Fox*



- *Immutable foundation to build security ecosystem upon*
- *HW root of trust*
  - *Identify and authenticate device*
  - *Used to establish the Trust Chain*
- *Verification that ANY code running is not modified*
- *Ability to bind content to device or storage*



Hardware Based Trust

- *Establishes an isolated, secure environment to execute apps within*

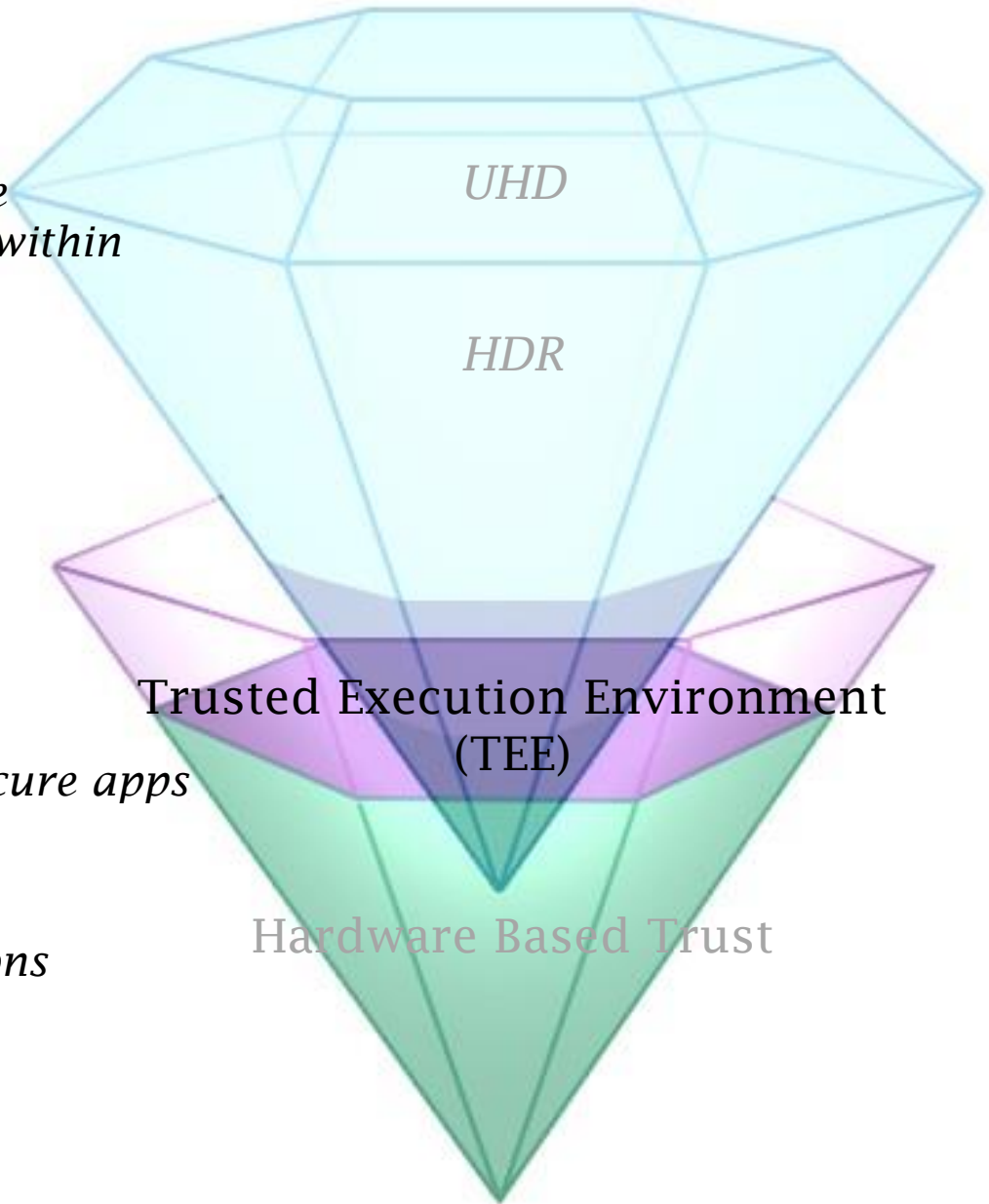
- *Secure Processing*

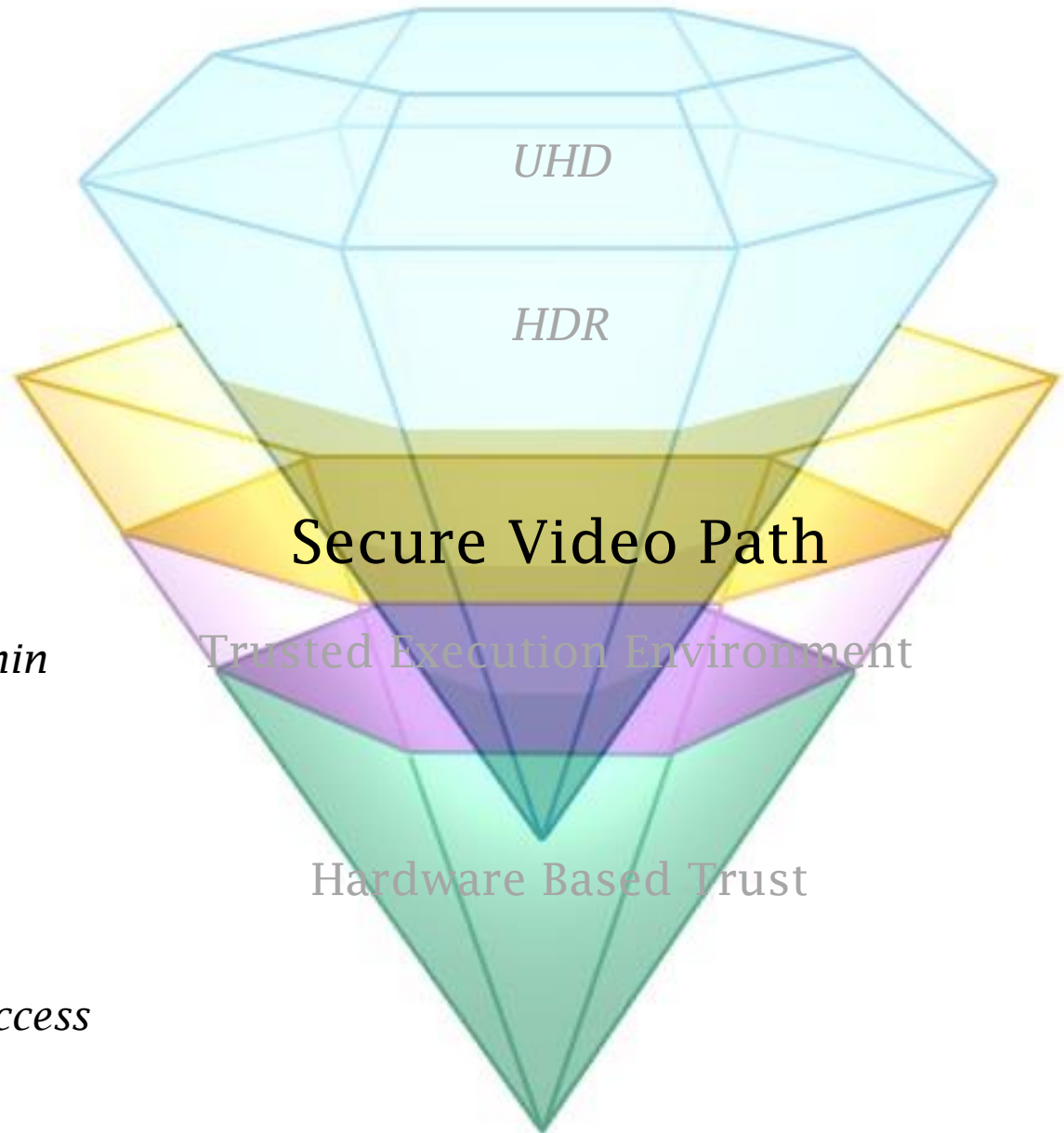
- *Protected memory*

- *Runtime integrity check of secure apps*

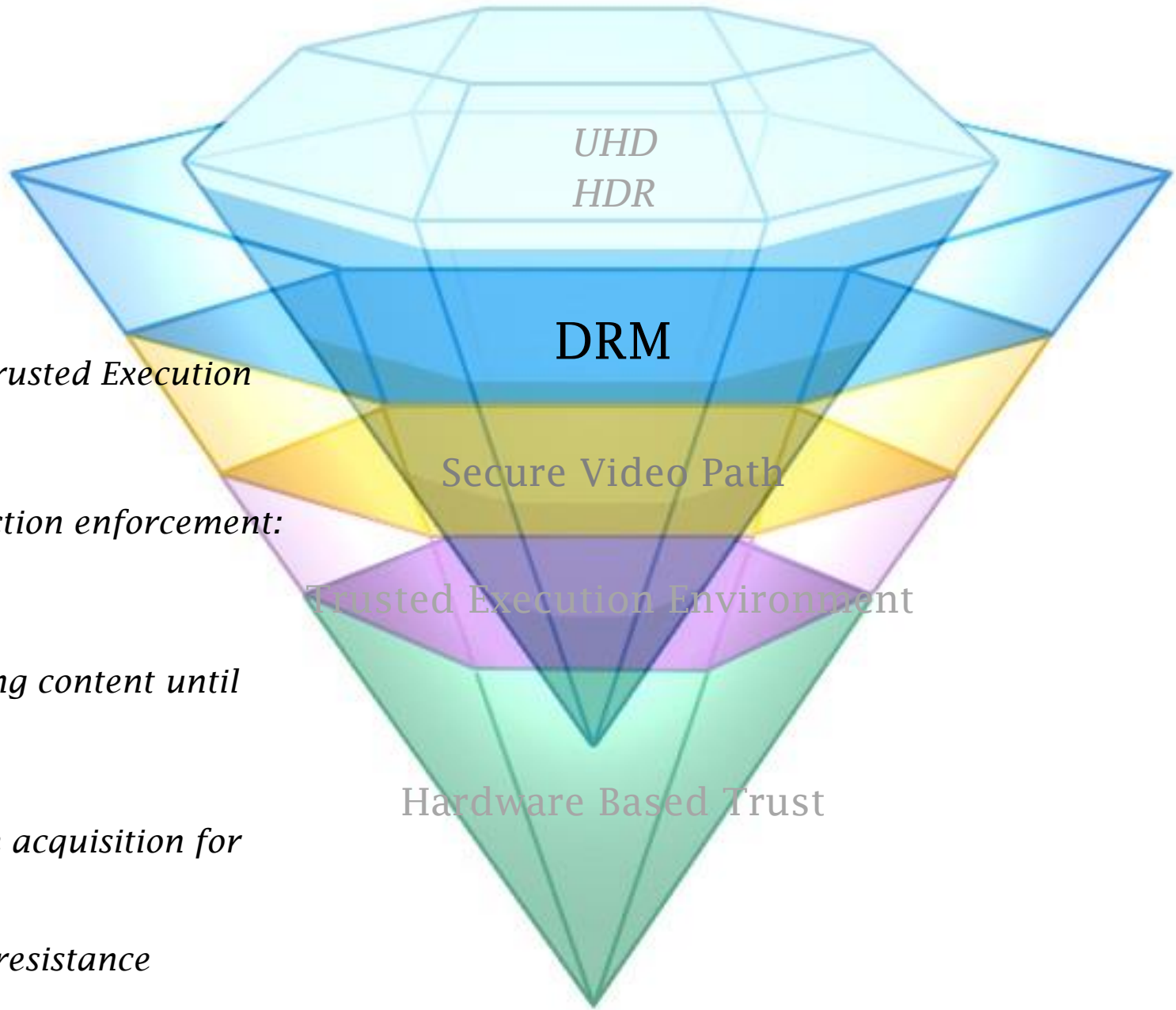
- *Secures cryptographic functions*
  - *Random number generator*

- *Protect secrets*

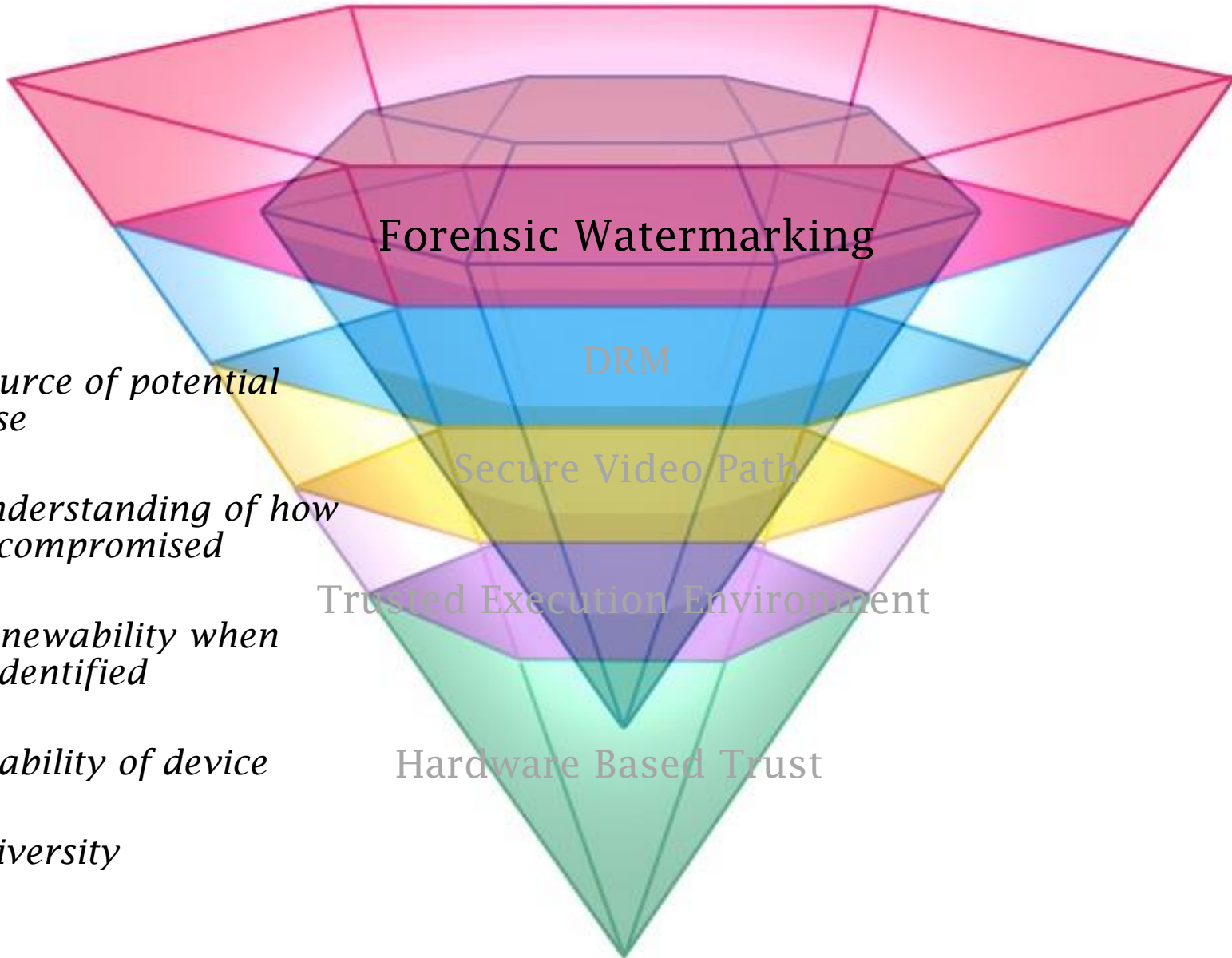




- *Content protected from decryption through to protected output*
- *Video decode executes within TEE managed resources*
- *Protected Frame Buffers*
- *Other applications can't access content*



- *Runs in the Trusted Execution Environment*
- *Output protection enforcement: HDCP 2.2*
- *Enables locking content until street date*
- *Online license acquisition for move or copy*
- *Side channel resistance*



- *Identify source of potential compromise*
- *Greater understanding of how content is compromised*
- *Trigger Renewability when breach is identified*
  - *Renewability of device*
  - *Title diversity*



- *Agile components that can be renewed, replaced, and fortified to add to overall strength*
- *Renewable elements within the Trust Chain*
  - *Firmware update*
- *Renewable DRM keys*
- *Title diversity*
  - *Hack one  $\neq$  Hack all*
- *Secure Video Pipeline improvements*

