



# DSTAC WG3: Adobe Primetime DRM

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## Overview

Adobe Primetime is a multi-screen media platform providing support for monetizing and personalizing video playback.



- Support for multiple application environments
- Support for protected video/audio with rich policy control
- Support for detailed analytics
- Support for high quality players (ABR, trick modes, etc.)

## Supported Use Cases

- Delivery models
  - Live Streaming
  - Streaming VOD
  - Channel-based (linear) streaming
  - Download VOD
- Payment models
  - Purchase
  - Rental, pay-per-view
  - Ad-based

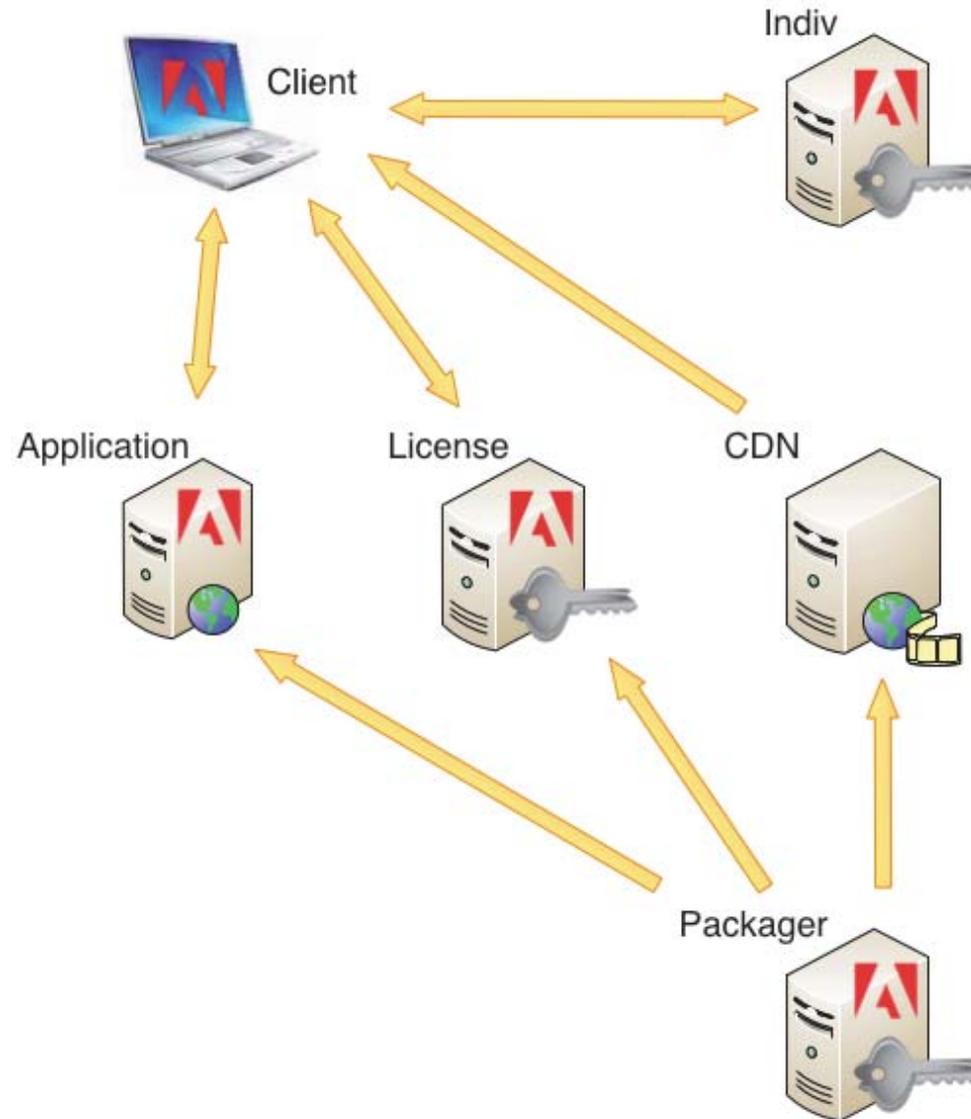
## Security Features Overview

- Online and offline licenses with expiration
- Output link protection (HDCP, ACP, CGMSA)
- License renewal/rotation
- Device authentication (aka node locking)
- Device domain support\*
- User authentication\*
- Compromise detection\*

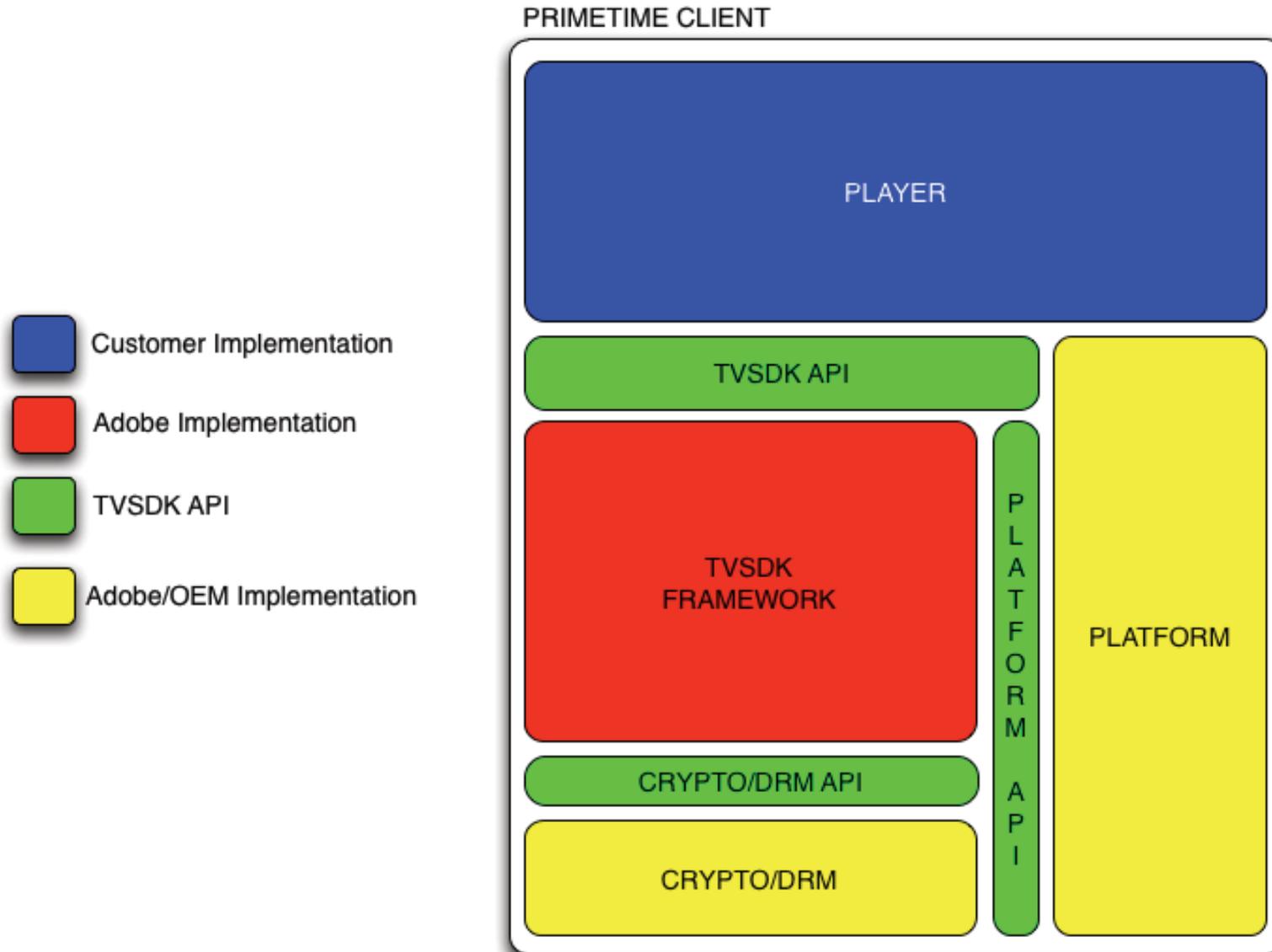
# System Architecture



This indicates a required or optional Primitime component

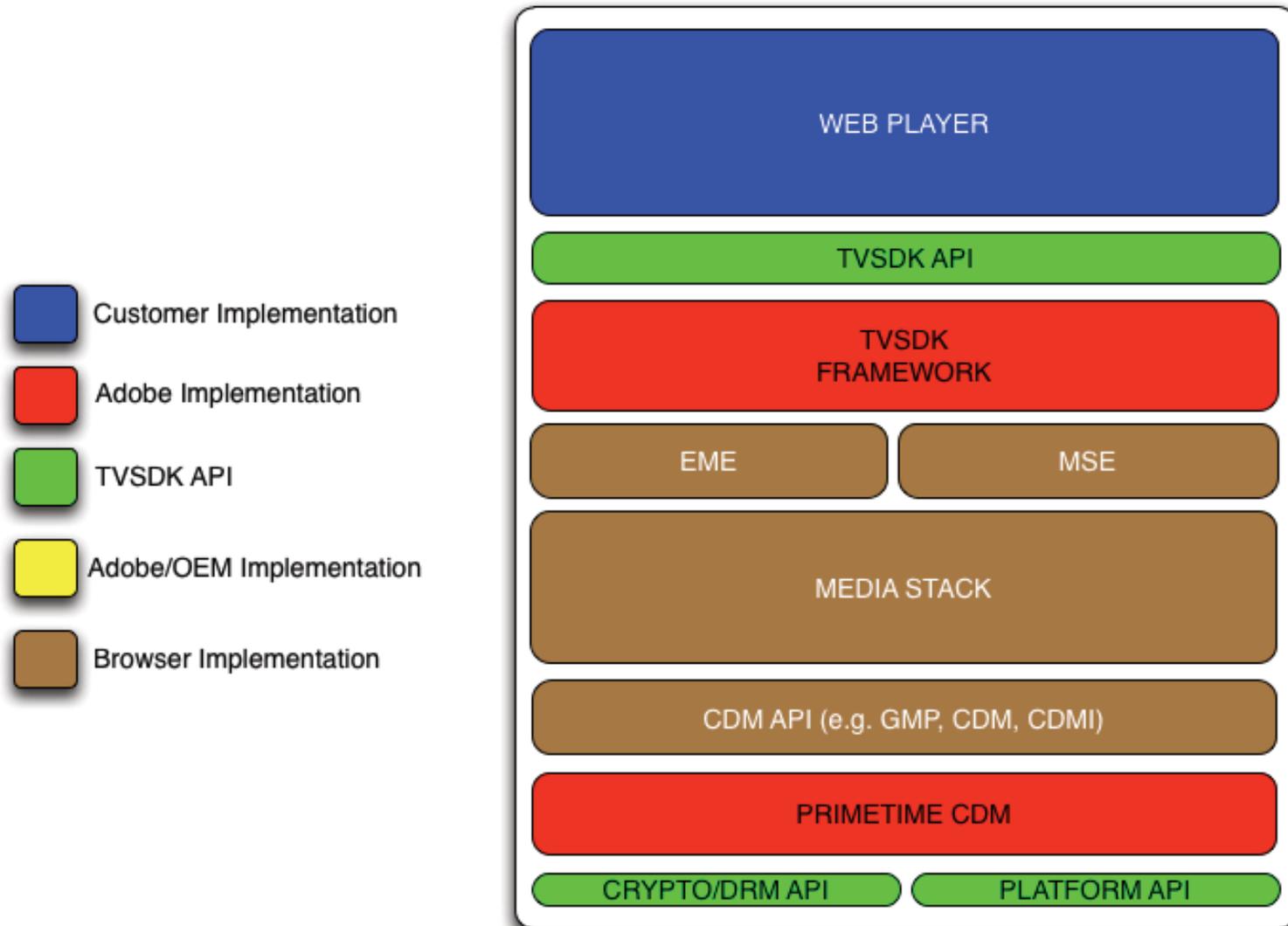


# Traditional Client Architecture



# HTML5 Client Architecture

## PRIMETIME CLIENT ON BROWSER



# Supported Application Environments

- Desktop application (Win, Mac, Linux)
  - Integrated DRM. Client built with AIR/ActionScript.
- Browser web application
  - Downloadable, renewable DRM. Client built with Flash/ActionScript.
  - Downloadable, renewable DRM. Client built with JavaScript + EME/MSE
- Android application
  - Integrated DRM. Client built with native + Java SDK.
- iOS application
  - Integrated DRM. Client built with native SDK.
- Game console/buddy box application (Xbox, Roku, etc.)
  - Integrated DRM. Client built with native SDK.
- **POSIX compliant OS application (e.g. RDK)**
  - Integrated DRM. Client built with C/C++ SDK.

\* Application model requires an application update to refresh the DRM component.

## Public Standards Supported

- Protocols
  - TCP/IP, HTTP, S/MIME,
- Packaging
  - MPEG-DASH + CENC, MP4, HLS\* v4/v5
- Codecs
  - H.264, H.265
- Crypto
  - RSA/AES/SHA1/SHA256
  - Future versions potentially including ECC
- Application languages
  - HTML5 w/ EME/MSE, CSS, JavaScript, C, C++

## Support for HTML5 with EME/MSE

- Integrated Primetime CDM on Firefox for Windows
- Working on Primetime CDM for Chromium-based browsers
- Planning to support other DRMs in other browsers via Primetime TVSDK
- Discussing integrating Primetime CDM into more browsers

## Challenges with HTML5 with EME/MSE

- Feature gaps compared to other platforms
- Environment is more restrictive
- Opposition to integrating third-party CDMs
- Limited support for DRM interop via CENC PSSH

## Security & Robustness of Implementation

- All implementations of Adobe DRM are governed by published Compliance and Robustness Rules.
- Compliance rules dictate product behavior and enforcement of rights and restrictions on content usage, robustness rules mandate required levels of security and protection against attackers.
- Third party device implementers are responsible for the robustness and compliance of the implementation.
- First party implementations (Examples: Flash Player on Windows/Mac, iOS and Android libraries) Adobe is responsible for ensuring robustness and compliance.
- Adobe's ongoing breach response process monitors for circumventions and non-compliant implementations, and has a process for remediation and communication of breach activity.

# Intellectual Property & Licensing Regime

- Adobe licenses our content protection and playback technology to third party implementers, governed by our Compliance and Robustness Rules and overall terms of our license agreements.



**Adobe**