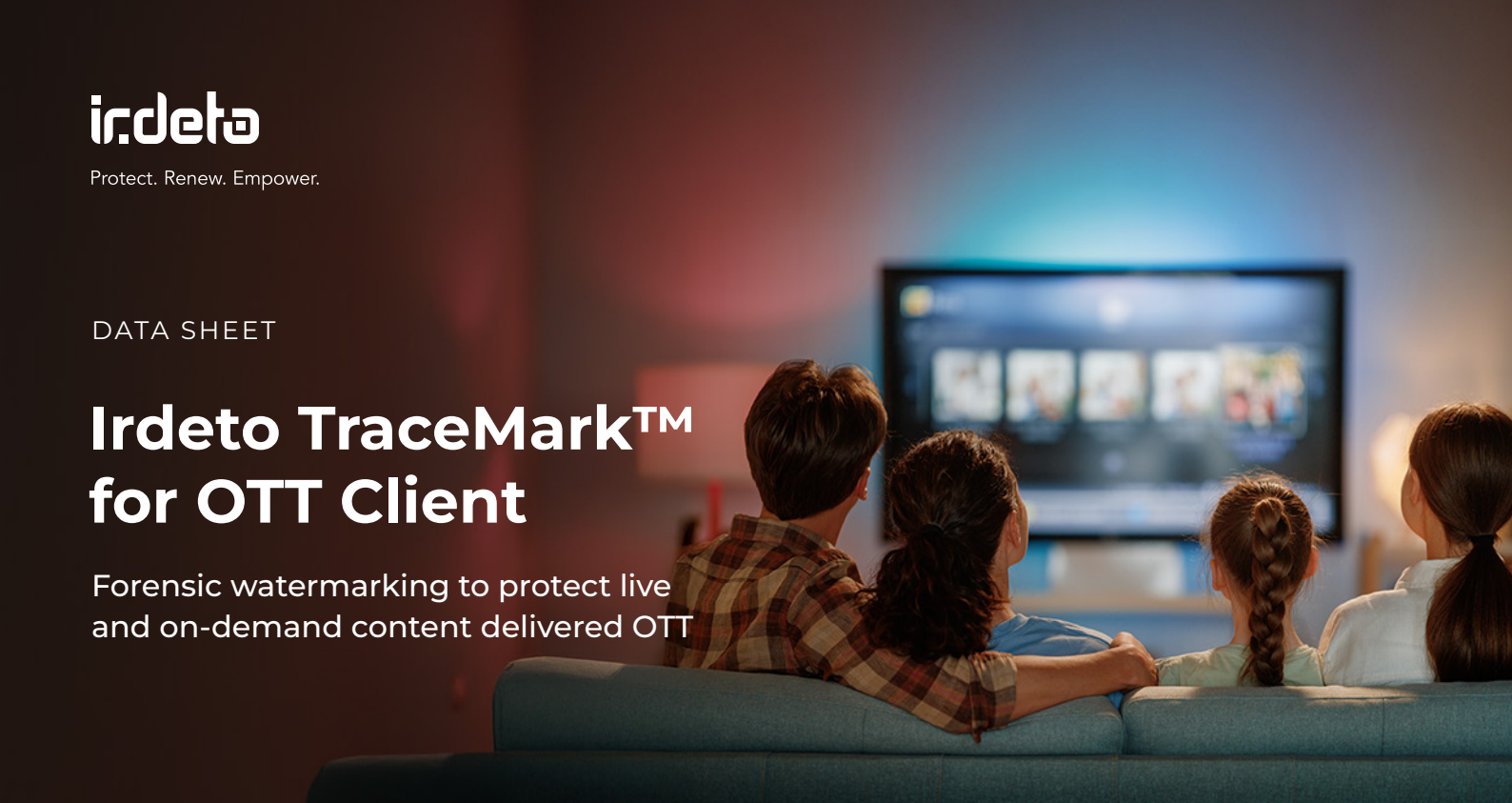


DATA SHEET

Irdeto TraceMark™ for OTT Client

Forensic watermarking to protect live and on-demand content delivered OTT

A photograph of a family of four (a man, a woman, and two children) sitting on a blue sofa, viewed from behind, watching a television. The TV screen shows a grid of video thumbnails. The room is dimly lit, with a warm glow from a lamp on the right.

Video viewing habits have changed across the world, especially among younger consumers. People watch movies, TV series and sports on personal devices via an Over-The-Top (OTT) service more and more – sometimes even exclusively – because of the attractive content offering, pricing and convenience.

Unfortunately, pirating OTT content and illegally redistributing it over the internet has also become easier with the availability of technology and broadband speed. Internet redistribution piracy is now the greatest threat to the media business. If you want to offer a competitive OTT service that grows in revenue and profit, you must have a security strategy that enables you to acquire premium content and protect its value from piracy. Content owners such as Hollywood studios and sports rights holders have raised the security requirements for premium content in order to combat content redistribution piracy.

For example, with the introduction of Ultra High Definition (UHD) content, multiple studios have defined a set of security requirements which all providers must meet to be eligible for premium content such as early-release movies. These include forensic watermarking and breach/piracy response to help service providers stay one step ahead of the pirates.

Irdeto TraceMark™ for OTT Client is a forensic watermarking solution that overlays a unique and virtually invisible mark to identify the source of a content leak through the operator's OTT streaming app. It protects Video On Demand (VOD) and live content, such as sports, delivered over the internet. It leverages single-frame detection technology that enables detection in seconds, allowing you to find and shut down pirate streams while the live game is on. When used in conjunction with Irdeto Cyber Services and/or Irdeto Online Piracy Detection (OPD), it provides you with expert support and forensic evidence to track down and prosecute pirates. Irdeto TraceMark™ also supports Irdeto Control, the multi-Digital Rights Management (DRM) and policy management system to help you launch OTT services that support the widest range of devices and business models.

KEY BENEFITS

Rapid detection to protect 4K UHD live sports

A lightweight watermark is overlaid on the content by the client device to enable source identification. The watermarking solution embeds the unique identity of the client device in each watermarked video frame, making it quick and easy to trace the leak back to the source. This capability is essential to protect the value of live content, because the value of the content is highest before and during the event but is lost once the game is over. The watermark can also be overlaid in time-shifted and on-demand content.

Fast time to market and scalable solution

Integrating Irdeto TraceMark™ for OTT Client is easy and fast. The client-based approach to watermarking means that there is no impact on the content preparation or distribution chain, eliminating the need for extra bandwidth or storage, decoding/re-encoding content, or latency.

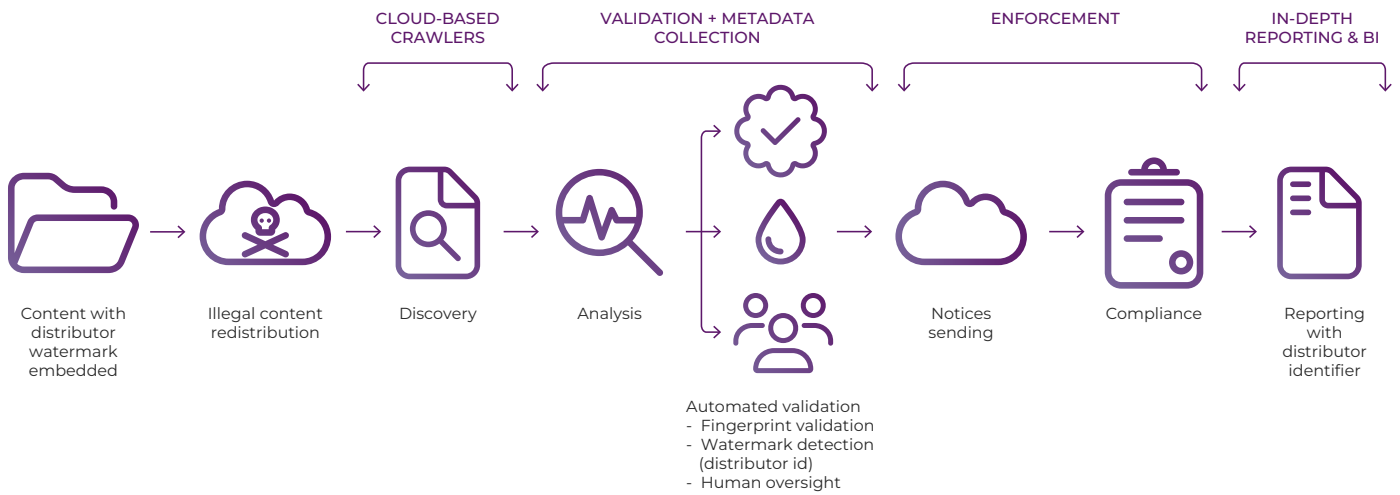
The solution uses an Irdeto managed cloud service, hosted on Amazon Web Services, from which client-specific watermarks are fetched. Best practice is to run a proxy/cache in the operator domain for security purposes; the fetched watermark is applied as an overlay inside the client app/player to display watermarked content on the device. Irdeto TraceMark™ for OTT Client supports common OTT platforms, such as iOS, Android and HTML5. The solution is DRM agnostic and is suitable for legacy OTT devices with custom DRM implementations. This level of end-to-end integration makes it quick and easy to deploy forensic watermarking to your ever-increasing consumer base and wide range of devices.

Full control of the user experience while ensuring robustness

Operators have full control over the time, duration and strength of the watermark. The robustness and visibility of the watermark can be tuned to the desired balance between security and user experience. When a new watermarking scheme becomes available, it can be rolled out as a software update to the watermarking overlay service with no changes required on the client devices.

Effective defense against content redistribution piracy

Having state-of-the-art watermarking technology on its own provides minimal benefit. The winning formula involves combining robust and scalable forensic marking technologies with proactive enforcement and investigative services. With Irdeto TraceMark™, service providers can easily and quickly identify the source of the leak using session-based watermarking. Irdeto Cyber Services and/or Irdeto OPD then enable service providers to find leaked content on the internet and identify the source of the leak using Irdeto TraceMark™. By providing actionable insights, Irdeto helps service providers shut down rights-infringing services and prosecute the parties involved in the piracy.

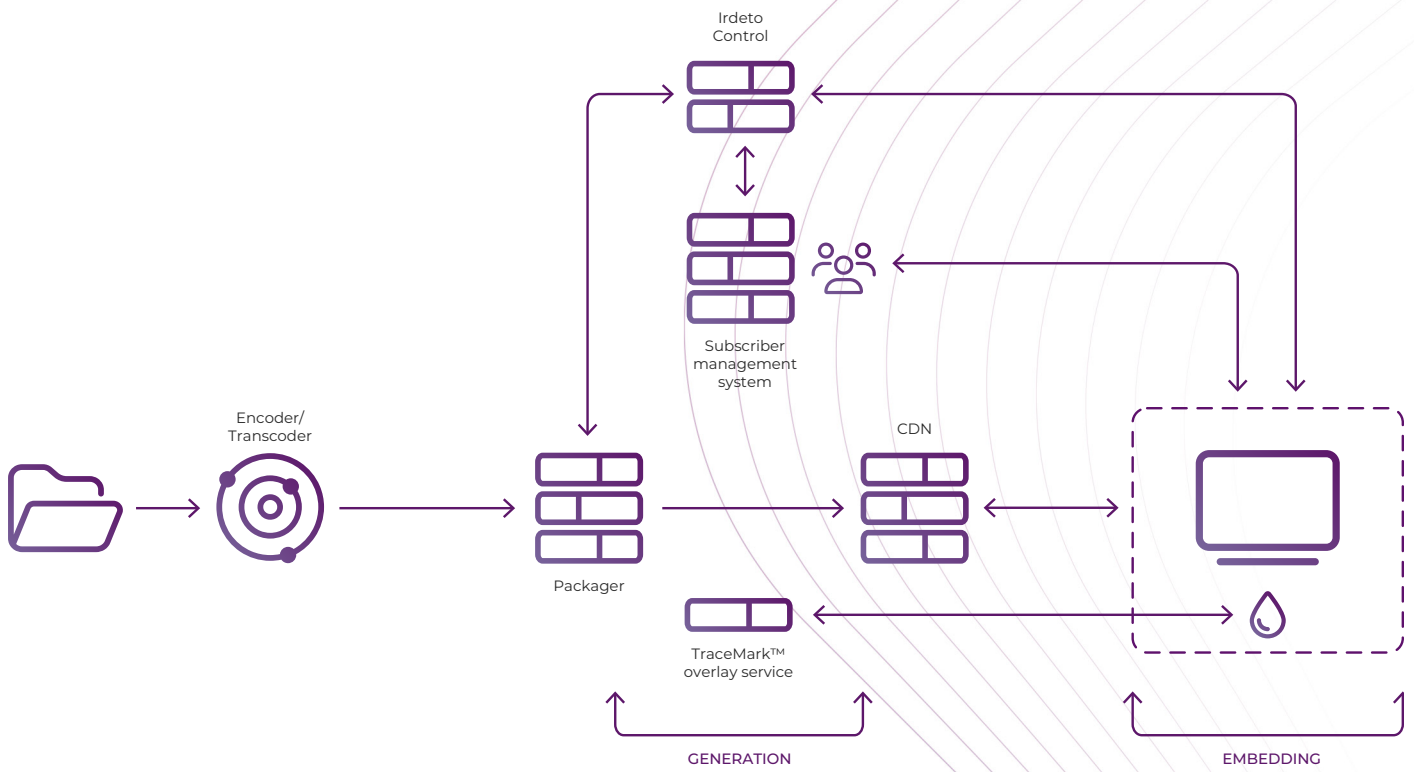


HOW IT WORKS

Irdeto TraceMark™ for OTT Client provides client-integrated watermarking for VOD and live content on internet protocol networks using HTTP adaptive bitrate streaming protocols such as HLS and MPEG-DASH.

This client-based approach to session-based watermarking ensures that each device receives a uniquely watermarked overlay, and consists of two steps:

- **Watermark generation:** The Irdeto TraceMark™ Overlay Service generates a specially generated image (an “overlay image”, or simply an “overlay”) to be superimposed on the OTT player display area. The overlay is generated specifically for the chosen blending method at the client device. Supported methods are Straight Alpha and PreMultiplied Alpha. The overlay can be generated in either an 8, 10, 12 or 16 bits per pixel format. These parameters along with the target overlay strength, can either be passed as part of the signed JSON Web Token (which contains the client identity) or can be configured at the operator level.
- **Watermark embedding:** The overlay image is applied on top of the video playback view but beneath the other optional layers such as playback controls.



Cartesian is trusted and recommended by the major Hollywood studios. Its auditing services comply with the studios rigorous standards, including MovieLabs Enhanced Content Protection specification for UHD and 4K content. The Farncombe Security Audit® Watermark provides confidence in the robustness of the watermark technology tested.

FARNCOMBE SECURITY AUDIT® WATERMARK	
Company	IRDETO
Product	IRDETO TRACEMARK™
Date	JULY 2021

Cartesian, Inc.

Would you like to learn more about Irdeeto TraceMark™ for OTT Client or explore how it can enhance your revenue?

Reach out to us today at www.irdeto.com!

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