VO Anti-Piracy Center
A suite of managed services to protect your business and revenues

VO's Anti-Piracy Center offers a comprehensive set of services to extend the security offered by traditional content protection mechanisms such as Conditional Access Systems (CAS) and Digital Rights Management (DRM). From security assessment to takedown actions, VO's global approach to video piracy is a combination of top-notch technologies and a team of skilled experts, providing operators and broadcasters with the ultimate anti-piracy solution for protecting their content and revenues.

The New Era of Piracy

Best practices in risk management and security

With over 22 years of experience, and having each of its seven generations of card/cardless solution challenged by video pirates worldwide, VO has acquired a unique depth of knowledge regarding video piracy and how to track and fight hackers.

A collaborative team of multidisciplinary security experts

Our security experts conduct day-to-day operations worldwide to assess, monitor, and take down video piracy. VO's anti-piracy team is comprised of various security professionals, including ISO-certified cybersecurity experts, open data investigators, architects, technical analysts, and reverse engineers.

Best-in-class technologies

Each service of the Anti-Piracy Center relies on technologies developed in-house by our own R&D team, based in France. This enables operators to benefit from sophisticated AI and ML algorithms to detect service anomalies and measure credential sharing among their subscribers. Our technology retraces the source of attacks with advanced dynamic watermarking technology, and tracks illegal restreaming links through hundreds of crawlers spread all over the world.

With the democratization of IP-based video delivery, video piracy has been evolving. Following control word sharing and smart card cloning, hackers are now exploiting new techniques to illegally access and redistribute video content.
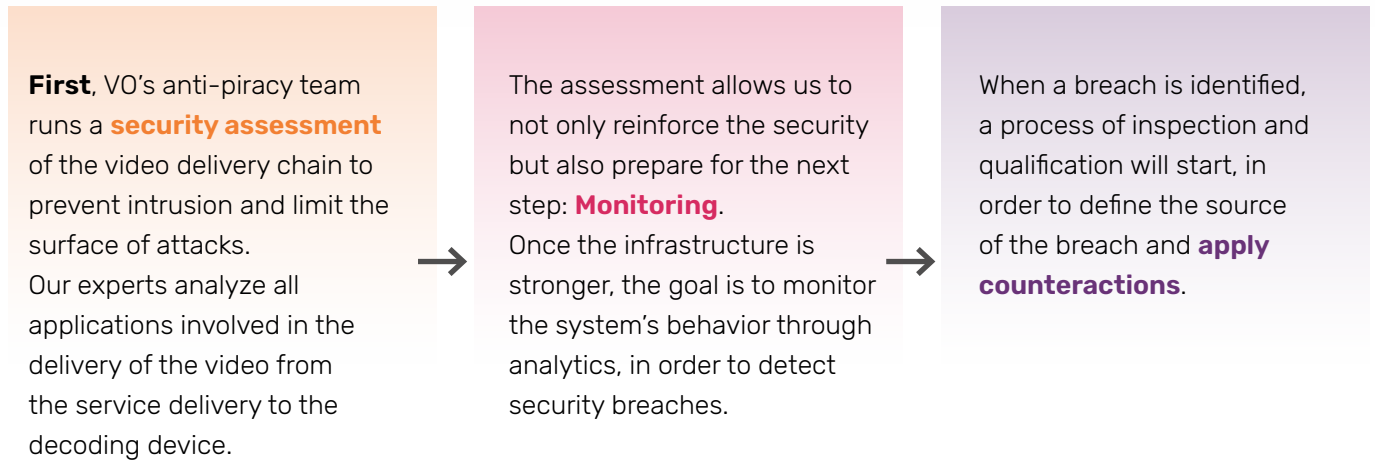HDMI stripping, CDN leech, password sharing and illegal device usage are some of the common threats used by hackers: Benefiting from a vulnerability in the video delivery chain, pirates can capture and redistribute the content, regardless of the content protection technology or provider.

By attacking the content, pirates are attacking the business and revenues of rights owners and rights holders. They package stolen content with professional services such as 24/7 support and free installation and aggregate pay-TV channels, movies, and TV shows, to create the one-stop-shop that operators themselves are striving for.
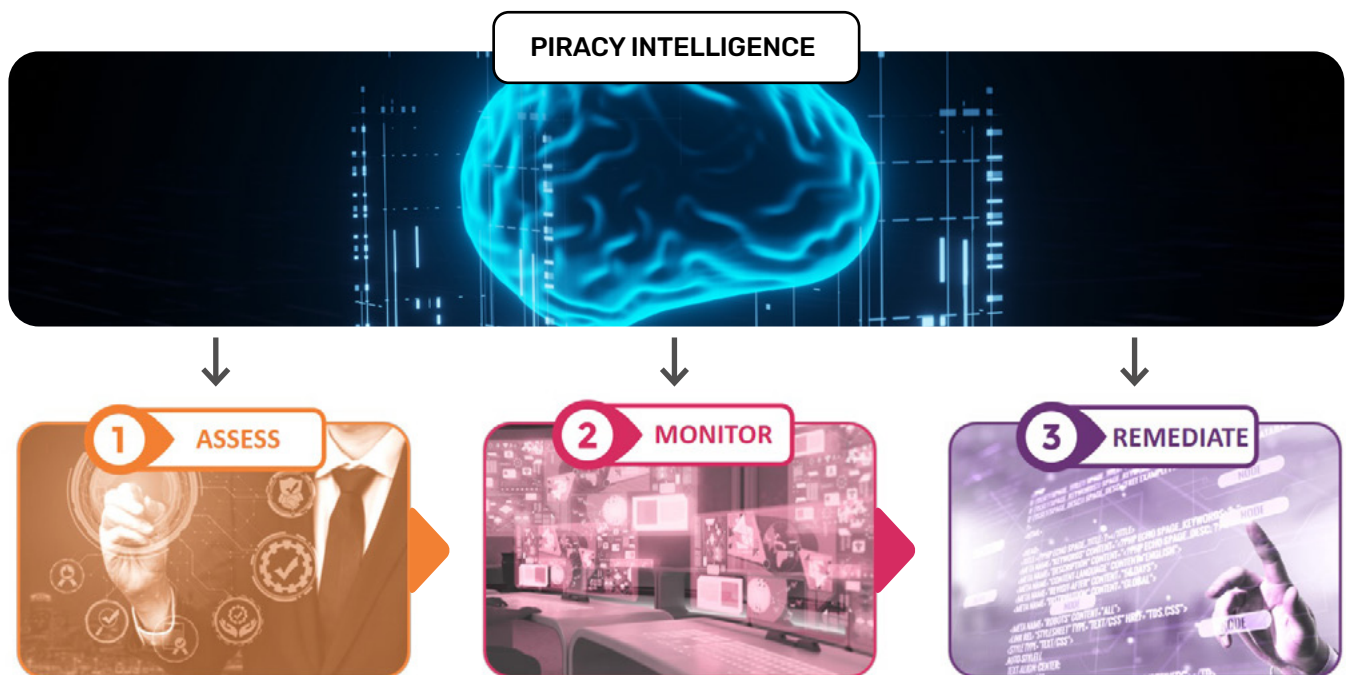Pirates' business models can be based on premium subscriptions or ad-funded, with various quality of services and SLAs.

The Anti-Piracy Center Process

The Anti-Piracy Center offers a suite of services to prevent, protect and fight piracy, and a unique methodology aimed at minimizing attacks.

First, VO's anti-piracy team runs a **security assessment** of the video delivery chain to prevent intrusion and limit the surface of attacks.
Our experts analyze all applications involved in the delivery of the video from the service delivery to the decoding device.

→

The assessment allows us to not only reinforce the security but also prepare for the next step: **Monitoring**.
Once the infrastructure is stronger, the goal is to monitor the system's behavior through analytics, in order to detect security breaches.

→

When a breach is identified, a process of inspection and qualification will start, in order to define the source of the breach and **apply counteractions**.

All three steps are fed by our anti-piracy intelligence, which constantly watches for new software vulnerabilities and gathers intelligence on pirated content.

PIRACY INTELLIGENCE

1 ASSESS   2 MONITOR   3 REMEDIATE

Piracy Intelligence

Piracy is continuously evolving. Pirates always find new ways to access content and hack systems. As a content protection solutions provider, VO ensures it is always up to date on the latest discovered vulnerabilities, as well as closely tracking content being illegally redistributed on the internet. VO's Anti-Piracy Intelligence hence has three main missions: Vulnerability monitoring, piracy vigilance, and building new intrusion detection rules and algorithms.

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Vulnerability Monitoring

Thanks to a close collaboration with Cyber Security Computer Emergency Response Teams (CERTs), VO gathers any new Common Vulnerabilities and Exposures (CVE) on a daily basis. These vulnerabilities are then analyzed by our team to check if they can find a match with any software used by one of our customers. VO's security experts will then work closely with the operators that have been identified as being at risk, evaluate the degree of vulnerability of their system, and help them patch the compromised software.

Piracy Vigilance

A new pirated offering is popping up almost every day. VO's vigilance team crawls the internet, and especially the social networks, to reference all the new services that illegally redistribute premium content, whether through mobile applications, streaming sites, or pre-loaded set-top boxes (aka Kodi boxes).
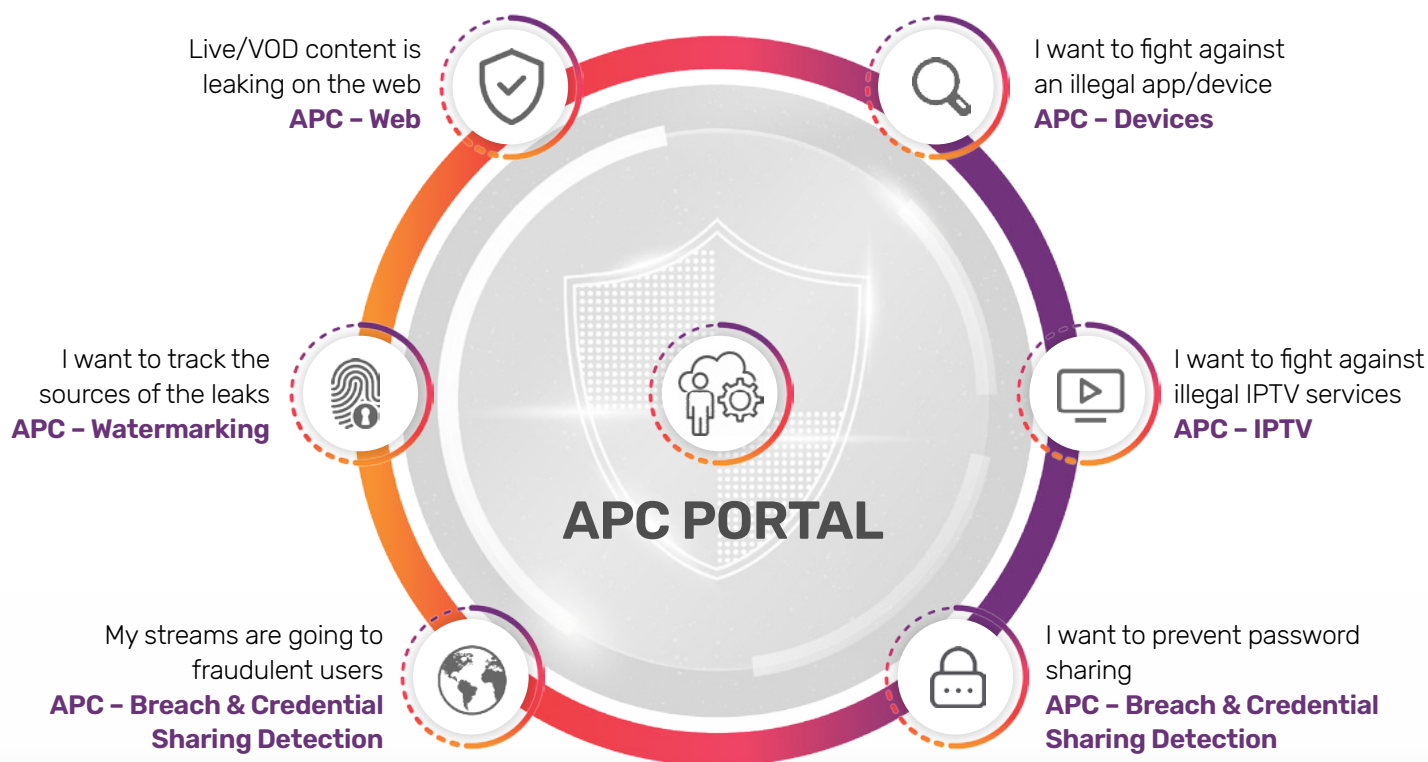
Intrusion Detection Rules

VO's data scientist team, in collaboration with our security experts, carries out a continuous integration of new rules and new Machine Learning algorithms, to help detect suspicious behaviors and unusual data patterns.

APC - Anti Piracy Center represents VO's holistic approach to anti-piracy, and is the ultimate solution to our customers' pains. Here is the wheel of services linked to piracy use cases:

Live/VOD content is leaking on the web
APC – Web

I want to fight against an illegal app/device
APC – Devices

I want to track the sources of the leaks
APC – Watermarking

I want to fight against illegal IPTV services
APC – IPTV

APC PORTAL

My streams are going to fraudulent users
APC – Breach & Credential Sharing Detection

I want to prevent password sharing
APC – Breach & Credential Sharing Detection

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Clean-up the web with APC-Web

APC-Web is an anti-piracy solution that offers a two-step, modular service for content owners and service providers, to help detect and fight pirates on the open internet. Created especially to prevent the illegal distribution of premium live and VOD content, APC-Web has already identified nearly 100,000 premium pirated sports events, and hundreds of pirate internet services.

Monitor

✔ **24/7** real time monitoring and detection of illegally distributed streams/content

✔ Analysis of **1.5 billion** new links per month

✔ Worldwide experts complementing the automated search

✔ Audience measurement on UGC platforms (YouTube, Facebook, Twitch…)

✔ Screenshots and video captures of live feeds

Remediate

✔ Automatic submission of take-down notices to pirate site owners and bittorrent websites; escalation to hosters, ISP and CDN.

✔ Google dereferencing

✔ Removal of content on cyberlockers

✔ Removal of all content on UGC platforms

✔ Posts removal on social media (TikTok, Twitter, Instagram)

Combined with watermarking solutions, cleaning the web space as soon as possible is key, as even a few minutes are enough for illegal content to disperse over the internet. That's why anti-piracy should combine several solutions from content protection, security assessment, breach detection, and takedown solutions.

Security assessment is, above all, a living process. It starts with a risk assessment, aimed at defining the system for assessing, the problem, the objectives, and the pertinent security requirements. The next step is to evaluate the security of the existing system, and analyse the gap between the required, and the existing situation. From there on, remediation takes effect, filling the identified gap and increasing the robustness of the system.

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Fighting against illegal IPTV services with APC-IPTV

APC-IPTV is an Anti-Piracy Service targeting the illegal redistribution of live TV content over the internet via closed networks. By identifying and monitoring the main illegal IPTV services most impacting our customers, the APC-IPTV service allows our customers to adopt the relevant countermeasures to fight this form of piracy.

Monitor

✔ Automated scraping and labeling of the information available on storefronts websites.

✔ Automated monitoring and data collection of selected IPTV services

Remediate

Focusing on a website, an app, or a device with APC-Devices

In some territories, piracy is concentrated in the use of a dedicated website, application or Set-Top-Box. Viaccess-Orca provides full coverage for dealing with these use cases too.

For each selected pirate content platform we provide a deep analysis, based on public and private information gathered during our technical investigations carried out by our team of multi-disciplinary experts, among which we have:

✔ Take-down notification to Infrastructure Service Providers

✔ Removal of illegal apps from Apple and Google Play stores

✔ DNS ban

✔ IP ban

✔ Video Security experts

✔ Trained investigators

✔ ISO certified security auditors

✔ Legal and law enforcement experts

Automating monitoring and data collection is key, to ensure the provision of real-time, up to date information at all times. Based on the collected data we perform a security review and suggest adequate countermeasures with technical actions plan.

Breach & Credentials Sharing detection

Leveraging the enormous potential of big data analysis, content protection can now be extended towards breach detection capabilities. Integrating new AI algorithms, our intelligent software is able to detect service anomalies and create viewpoints of platform threats and vulnerabilities.

Beyond the detection of incidents, enhanced by advanced ML technologies, the breach detection solution can identify abnormal user behaviors, password sharing, password control, and geoblocking services, protect the operator's and the broadcaster's business. Breach detection is a full monitoring process capable of aggregating 24/7 services in order to reduce the scope of suspicious devices such as ghosts and cloned devices.

When the AI platform detects the threat source, the operator can request VO's support in order to choose the course of action best suited for addressing the issue. The operator can either take down the source or alert malicious users through emails.

AI and machine learning techniques are vital for supporting breach detection, empowering a detection without exhaustive models of attacks. Pirates are creative, but Artificial Intelligence can face this phenomenon, where no one knows where and how the threat will come from, head on.

Identifying the sources of the leaks with APC-Watermarking

Watermarking is a security technology for tracking the source of leaked content. VO's watermarking solution injects an invisible mark into the video identifying the end-user device during playback . When content is identified as available illegally online via the APC-Web service, the mark can be extracted and the source of the leak retrieved from it. In collaboration with the content holder, VO can then decide which sanction to apply. VO's watermark agent addresses all types of redistribution networks: Broadcast, IPTV and OTT. It does not require a specific tool for re-encoding, and can run on servers or client-side.

Since pirates know how to circumvent static watermarking, VO has developed a dynamic and renewable solution that prevents technology obsolescence. The watermark management system is able to dynamically change the watermark algorithm, both periodically and/or in reaction to direct attacks.

VO's tracing system provides a complete and global solution, covering all available aspects of piracy, from detecting the content leaked, retrieving its source, to sanctioning the hacker.

**VO Watermarking awarded
"Best Content Protection Technology"**

WHY VO?

- One stop shop for all your anti-piracy services
- A worldwide team of experts for a tailor-made strategy
- Control all your security services from one unique portal
- Global reputation for delivering proven results
- Multiple award-winning technologies

VO in Numbers

50M+	100+	90+	25+
Subscribers	Customers Worldwide	Technology Partners	Years of Experience

Discover how VO's Eye on Piracy detects, fights and legally stops digital pirates:
Read more: https://www.viaccess-orca.com/anti-piracy-protection

About Viaccess-Orca

Viaccess-Orca (VO) is a leading provider of data-driven, end-to-end solutions that empower TV operators and service providers to deliver, secure, and monetize viewing experiences on every screen. From enabling AI-powered personalized TV and targeted advertising to offering robust security and anti-piracy services, VO is continually evolving to meet changing viewer preferences and industry needs. Deployed by over 100 customers worldwide to power advanced video services for millions of subscribers, VO's cloud-native solutions allow easy integration with any ecosystem and quick time to market for new features and top-notch technologies. A subsidiary of the Orange Group, VO has decades of award-winning expertise in securing both video content and digital assets across the connected Industry 4.0. For more information, visit www.viaccess-orca.com or follow us on Twitter @ViaccessOrca and LinkedIn.

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