Intertrust ExpressPlay®

Protecting FAST for the win

How strong DRM boosts ROI

Building trust for a connected world.

Contents

Success fuels game-changing shifts in FAST agendas

The global surge in free ad-supported streaming television (FAST) has reached an inflection point abounding with growth opportunities for service providers who can offer premium content that's well protected against unlawful use.

Enthusiastic advertiser support for FAST channels allows service providers to go further than ever toward satisfying insatiable consumer demand for free access to high-caliber programming. By adopting content protection mechanisms that satisfy premium content owners' licensing requirements, FAST providers and the media and entertainment (M&E) industry can generally use premium content to maximum advantage across all distribution modes.

A growth trajectory projected to endure

The FAST market went into hyper-growth starting in the 2019-2020 timeframe, with the U.S. FAST channel count jumping from about 600 to over 2,000 by mid-2024.[1] Amagi said the number of FAST channels worldwide running on its playout platform is seeing rapid growth and topped 5,000 as of April 2024.[2]

The rapid worldwide growth of the FAST market is corroborated by Digital TV Research as reflected in Figure 1.

Global FAST market	2022 revenue	Projected 2028 revenue
Global total	$6B	$18B
U.S. Share	$4B (67%)	$9.9B (55%)
U.S. Share of 6 year growth		$5.9B (49%)

Other countries' projected 2028 FAST revenues	Projected 2028 revenue
U.K.	$909M
South Korea	$867M
Germany	$663M
India	$653M
Canada	$508M
Brazil	$438M

Figure 1:
Source: Digital TV Research[3]

Figure 2 provides a broader view of recent research projections. While the Digital TV Research numbers vary, they all portray an upbeat outlook for FAST services.

The explosion of FAST services into the over-the-top (OTT) mainstream has been fueled by activity on multiple fronts, including:

- Acquisitions of FAST market leaders by M&E giants like Comcast (Xumo), Paramount (Pluto), Fox (Tubi), and Amazon (IMDb, now Freevee).

- The amassing of FAST channel lineups by major consumer electronics OEMs like Samsung, LG, and Vizio.

- A host of FAST channel launches by leading TV network owners like NBCUniversal, Warner Bros. Discovery, AMC, and A+E.

- FAST market entry by pure-play OTT operations like Roku, Sling, FuboTV, and Peacock.

Rather than following the subscription video-on-demand (SVOD) model, FAST services assemble content for scheduled delivery linearly in themed channels, often with time-shifted viewing options. Until recently, the majority of FAST content was amassed from old TV shows and movies with low licensing costs and low-budget original niche programming.

Global FAST revenue projections

	2022	2027	2032	CAGR
Statista[4]	$4.93B	$11.83B		19.13%
Omdia[5]	$4B	$12B		24.57%
Allied Market Research[6]	$6.9B		$28B	15.4%

Figure 2:
Figure 2 provides a broader view of recent research projections. While the Digital TV Research numbers vary, they all portray an upbeat outlook for FAST services.

The emergence of new ways to differentiate FAST services

However, the FAST model is morphing rapidly as service providers try to capitalize on the popularity of subscription-free viewing in a crowded marketplace. Increasingly, they're differentiating their services to draw more viewers by bringing higher-value content into the mix, including sports and other live programming as well as recently produced movies and TV shows.

Broadcast networks such as Bloomberg and Ion are also live streaming their output as FAST channels. Live news is now commonly interspersed with other FAST programming, with some producers, including ABC, CBS, and NBC, generating programs specifically for FAST.

Top-tier sports leagues are trying FAST channels featuring commentary without actual game coverage, while some less dominant sports are getting live coverage through FAST channels. The first sign that major sports could also be moving in that direction came in May 2024 with Roku's announcement that it was becoming the first FAST channel producer to carry games from a top pro sports league, Major League Baseball.[7]

TV programming rights holders are generally releasing newer content into the FAST flow. Samsung Ads noted in its FAST report that over a third of the hundreds of FAST channels devoted to a specific TV series are based on titles that are still in production.

Individual FAST channels are often bundled into multichannel services with cross-channel EPGs (Electronic Program Guides). These include channel lineups delivered through OEM-specific apps embedded with Smart TVs and IP media players, as well as cloud-hosted apps available to anyone with a browser-enabled smart TV and other connected devices.

Bigger audiences drive ad monetization ever higher

Consumer demand for free services is driving these shifts in strategy. These are paying off with bigger audience numbers that inspire still more FAST initiatives. As of late 2023, forty-seven percent of U.S. TV viewers watched free streaming channels weekly, marking a 24% increase from a year earlier.[8] eMarketer projected that the number of regular FAST viewers in the U.S. would reach 114.5 million by 2027.[9]

The lion's share of FAST revenue is generated by dynamic insertions of targeted ads purchased through programmatic bidding. With advertisers willing to pay higher costs per mille (CPMs) for even the most rudimentary levels of targeting, broadcasters discovered a bonanza to be made from this new variation on the old syndication model.

Comcast's Freewheel ad unit recently reported that FAST services now account for 25% of TV ad views in the U.S.[10] According to Nielsen, as of mid-2023, the three FAST services, Roku Channel, Pluto TV, and Tubi, were capturing more U.S. TV viewing time than any legacy programming source other than the top two cable networks.[11]

The question dominating industry planning is how far the shift of premium-value content into the FAST pipeline can go without damaging the subscription business to the point of outweighing any ad revenue gains.

Surging global piracy drives demand for DRM protection

It's clear that delivering everything unencrypted content is no longer viable for providers who want to compete in the new FAST environment.

There are many reasons for the rapid rise of FAST content theft.. Rampant video piracy has made digital rights management (DRM) a routine requirement to license high-value video content for internet distribution. A quick review of online video piracy's impact on the M&E marketplace makes clear the trend will only intensify.

Consumer reliance on stolen content comes at a significant cost

Losses attributable to streamed video piracy are astronomical, reaching $75 billion in 2023 and on a path to hit $125 billion by 2028.[12] Visits to pirate websites in 2023 totaled 141 billion, 12% more than the 2019 visitor count, showing that the brief COVID era decline had ended (Figure 3).

The U.S. keeps the dubious distinction of being the leader in content theft, with an 11% share of the 2023 global pirate site visitor total, slightly ahead of India, which also rounded off at 11% (Figure 4). Parks Associates estimates cumulative streaming service losses to piracy in the U.S. will reach $113 billion over the 2022-2027 timeframe, equating to an average of $18.8 billion annually.

Pirate websites' package service bundles mimic legitimate streaming services with professional-caliber EPGs and the ability to generate subtitles in multiple languages. In some cases, pirate sites offer their services subscription-free, relying on advertising for monetization, often from online ad networks that mistake them for legitimate operations.

Global volume of visits to pirate websites

| $125B | $104B | | $112B | $127B | $141B |
| 2019 | 2020 | | 2021 | 2022 | 2023 |
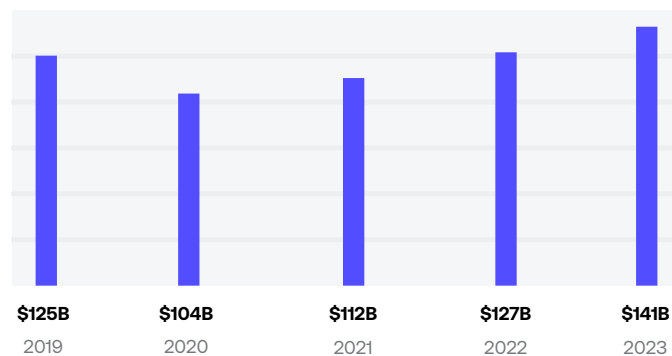
Figure 3:
Customers use of pirated content surpasses pre-Covid rate
Source: Kearney/Muso

Top 10 country shares of global pirate site visitation

Country	2019	2023	Point change
U.S.	9%	11%	11%
India	4%	11%	11%
Russia	7%	6%	6%
U.K.	3%	3%	3%
Canada	2%	3%	3%
Ukraine	3%	3%	3%
Turkey	4%	3%	3%
China	3%	2%	2%
Germany	3%	2%	2%
Indonesia	3%	2%	2%

Figure 4:
Source: Kearney/Muso

Thwart advanced piracy techniques used to steal premium content with strong, cross-platform encryption and security.

Piracy ad dollars increased from $200 million plus in 2015[13] to $1.34 billion in 2021[14] across all content categories. Pirates' subscription feeds generated another $1 billion.

The most successful pirate sites typically derive revenues from both advertising and subscription fees by running deeply discounted online services offering hundreds of channels. Sometimes, sites offering pirate services also provide access to legitimate services at much higher prices, leaving the impression that the illegal sites are legitimate cut-rate "IPTV" services.

Often, people don't even realize the sites are illegal; if they do, they consider the theft to be of little consequence. In 2022 nearly a fourth of U.S. broadband subscribers considered viewing stolen content acceptable, a 33% increase over results from a similar study in 2019.[15] In the case of stolen FAST services, pirates garner revenue from pre- and post-roll ads and ads placed on their EPGs and in other locations. The presence of FAST channels also benefits pirates by augmenting the aura of legitimacy they use to trick their more law-abiding visitors into using their services.

Sophisticated techniques fuel pirate successes

Compared to past practices, today's thieves have many more techniques at their disposal, making capturing high-value content for retransmission at much higher quality levels easier. For example, by recording video directly from large TV screens showing 4K or near 4K video, pirates can restream live programming approaching broadcast quality in near real-time. When timing isn't so much an issue, they can get original quality by using high-bandwidth digital content protection (HDCP) "strippers," making it easy to pull unencrypted video from the HDMI link.

There is an even more insidious process known as "CDN leaching," whereby thieves hack CDN providers' data to replicate tokens used to authorize access to legally distributed content. When consumers sign up for leach-compromised content promoted on pirate websites, they're issued tokens enabling them to get the same quality of experience and latency enjoyed by legitimate users. This compounds the impact theft has by cutting into content owners' and distributors' revenues while running up CDN charges paid by the legitimate users of CDN services.

DRM is crucial to FAST content protection, enforcing licensing, and ensuring advertiser returns.

The critical role played by DRM in the battle against piracy

In light of these developments, the need for encryption as the first line of defense against unauthorized access is greater than ever. While encryption in legacy pay TV operations was supported by set-top boxes using proprietary conditional access systems, the streaming era introduced a new approach that brought into play DRM-based internet distribution of decryption keys to authorized users.

Initially, leading DRM technology providers devised robust proprietary encryption and key distribution architectures that forced licensors to work within each proprietary domain and its ecosystem of supported devices. To overcome this fragmented market, Intertrust Technologies and, subsequently, other vendors developed sophisticated multi-DRM platforms that worked across all the leading proprietary systems and, in Intertrust's case, the widely deployed Marlin DRM system as well.

These highly automated multi-DRM solutions employ client player software or hardware-embedded mechanisms to execute trust verification, key exchanges, entitlement checks, permissions enforcement, output controls, and other client-side functions essential to unified security management on all devices. Offered on a cloud-supported turnkey basis, multi-DRM platforms have taken the operational pain out of meeting content licensors' requirements.

The full scope of the DRM imperative in the FAST market

Today, any assumptions that the "free" in FAST means there's no need for advanced multi-DRM protection are outmoded. Efforts to enhance the appeal of FAST channels, as described above, are drawing in ever more content that requires DRM. Moreover, there are multiple scenarios where DRM must be used to impose restrictions on consumer access even when channels only carry older content that originally aired in the clear.

These include cases where:

- A FAST channel's programming is only licensed for use in certain geographic regions or local data privacy or censorship regulations could be violated with distribution of the programming.

- There's a need to maintain exclusivity of FAST channels that are only offered to consumers with authenticated tie-ins to a particular OEM, streaming service, or broadcast network brand.

- Protection must be applied for FAST services that offer ad-free access to content or early viewing of programming elements for a fee.

- Older stored assets remain tied to licensing policies that require DRM-caliber protection.

The industry is transitioning to a blended service cloud where any mix of stored and live programming can be spun up with point-and-click efficiency.

Beyond these specific use cases, there's mounting market pressure to put DRM front and center in the FAST domain. Some of that pressure is due to the need to build trust around authentically delivered content as pirate websites become virtually indistinguishable from legitimate distributor websites.

To many visitors to pirate storefronts offering hundreds of channels and thousands of on-demand titles, it's all just IPTV. Under such circumstances, advertisers need to know they're dealing with legitimate services where access to the content they support is properly restricted and accounted for.

Consumers too, benefit when DRM protects FAST content. With an abundance of free content on the internet, authorized access to encrypted free content lets consumers know they're in safe zones beyond the reach of malware-infested pirate apps. The magnitude of that threat was underscored by a study produced which found that 57% of all apps offering stolen content to Europeans were infused with malware.[16]

There's also tremendous market pressure toward making DRM part of FAST operations stemming from the M&E industry's increasingly cloud-orchestrated approach to production. As reported by TV Technology Magazine, the M&E industry's shift to streamlining production in the cloud is putting content in a silo-free environment that blurs not only the old lines separating the OTT categories but the legacy broadcast and pay TV services as well.[17]

"In essence," the article says, "the industry is transitioning to a blended service cloud production paradigm where any mix of stored and live programming can be spun up with point-and-click efficiency across all business models." Or as Imagination Communications president Steve Reynolds told TV Tech, from a production standpoint, "FAST is just TV."

Blending FAST into content producers' and service providers' pursuit of advertising support for all types of programming, no matter its age or mode of delivery intensifies the need for advanced DRM protection. It's the only way to ensure that ad-supported programming of any type, live or stored, can be tapped for delivery to audiences in complete compliance with licensing policies.

Challenges to be met by multi-DRM in the FAST market

Affordability

As providers of FAST services understand the need for DRM protection, they must ensure that the multi-DRM platforms they choose cover all bases. Critically, these requirements must be affordable.

In a market where cost containment is a top priority, FAST operators need to rely on a turnkey multi-DRM service that takes full advantage of virtualized cloud technology to ensure the lowest possible total cost of ownership. This requires a success-oriented fee structure that leverages as-needed use of instantly scalable resources without incurring extraneous setup costs.

DRM requirements common to all use cases

When choosing a multi-DRM platform, there's a lot to consider, starting with requirements that apply in all DRM use cases, FAST or otherwise. Given the realities and breadth of device fragmentation, the platform must support all widely used DRMs with the ability to generate real-time audit reports validating adherence to licensing terms across all devices.

That means the platform must work with the three DRMs supported by virtually all multi-DRM platforms, namely Apple's FairPlay, Google's Widevine, and Microsoft's PlayReady. It should also support Marlin DRM, which is actively supported in chipsets running on millions of devices worldwide.

Moreover, the platform should support hardware-level integration that allows hardware roots of trust (HWRoT) to associate unmanaged devices with a distributor's content at the chip level. Licensors enforce this requirement by following the widely adopted Enhanced Content Protection recommendations issued by the motion picture studios' technology arm, MovieLabs.

Keys used by end devices to unlock encrypted content have to be provisioned on a per-session basis in accordance with all the types of encryption methods and file formats the various DRMs use to convey licenses and policy information. All provisioning and upgrade processes associated with these interactions must be rigorously secured. The same is true of the keys themselves, which must always be protected.

DRM in FAST services must handle seamless ad insertions, instant channel changes, and scalable live event streaming without disrupting the viewer experience.

Additional requirements tied to FAST market needs

The use of DRM in the FAST environment creates many additional challenges. For example, FAST services rely on dynamic advertising involving on-the-fly insertions of ads targeted to local service areas or individual users. In these instances, the encrypted content flow is interrupted by ads placed and delivered in the clear, requiring precise timing between the cutoff and resumption of encrypted content and the client-activated decryption process. The platform must respond to any adjustments in the core content flow caused by ad placement glitches that cause ads to exceed the allotted runtime.

Another requirement arises when linear FAST channels are grouped in multi-channel EPG lineups. Service providers want users to be able to seamlessly channel surf, just as they do when viewing legacy TV services. This requires instant DRM support for enforcing usage policies with each channel change.

Live content imposes additional challenges for multi-DRM platforms. For example, live streaming requires DRM processing speeds that avoid adding unwelcome lag between live broadcast and streamed content. The multi-DRM platform must also be able to scale key delivery to meet any viewership spikes triggered by popular sports or other live events. Otherwise, congestion-stalled DRM operations can and too often do cause viewers to miss some of the action altogether.

Moreover, when protected live content is part of the programming mix, licensors typically require that keys be refreshed multiple times during a viewing session. This is meant as an impediment to viewing illicitly re-streamed content.

It's also important to note that additional usage rights policies can come into play when the FAST service supports time shifting by end users, including catch-up viewing in limited time windows and cloud-based DVR options. Distributors must be sure their system recognizes whether their licenses cover such use cases and that the appropriate protections are provided when they do.

Conclusion

The rapid success of FAST services has unlocked significant opportunities for service providers to meet the growing consumer demand for free, TV-caliber streaming content.

As major content owners and distributors increasingly enter the FAST market and cloud-based production advances, service providers can now seamlessly integrate FAST offerings with other content distribution channels.

With the rise of ad-based monetization, the potential for revenue generation through FAST services continues to expand. However, as more high-value content enters the FAST ecosystem, it becomes crucial for providers to implement robust content protection measures, particularly in the face of sophisticated piracy threats that can severely impact ROI.

DRM protection is not just a good practice—it is a necessity to safeguard premium content, meet licensing requirements, and ensure regional compliance across global markets.

Multi-DRM platforms play a vital role in enabling this protection, allowing service providers to deliver secure, compliant content across a variety of devices and regions.

For example, ExpressPlay Multi-DRM offers comprehensive coverage across all major DRMs, ensuring that even the most complex FAST services can be delivered securely and efficiently, protecting both content and revenue streams.

As the FAST market continues to grow, the need for reliable, scalable multi-DRM service is not just a trend but a crucial aspect of the industry's evolution. Service providers, regardless of size, must prioritize content protection to fully capitalize on the opportunities presented by this evolving landscape. By implementing effective content protection strategies, they can ensure the longevity and profitability of their FAST services in an increasingly competitive and complex market.

Sources

1   Decoding FAST: A Comprehensive Guide to the Free Ad-Supported Streaming Landscape, Samsung Ads, January, 2024

2   FAST Report Unveils the Rise of a Diverse Global FAST Marketplace, Amagi, April 2024

3   Global FAST Revenues to Triple to 2028, Rapid TV News, May 2023

4   Statista, *ibid*

5   Omdia, *ibid*

6   FAST Channels Market Statistics, 2032, Allied Market Research, July 2023

7   Roku Lands Exclusive Rights to Major League Baseball Sunday Leadoff, Press release, May 2024

8   Kantar Media, US Streaming Market Faces Stiff Competition, October 2023

9   eMarketer, What Media Planners Need to Know about FAST, February 2024

10 Freewheel, Second Half 2023 Video Marketplace Report, February 2024

11 Nielsen, Linear TV's Comeback: The Arrival of FAST, June 2023

12 Kearney/Muso, Video Content Piracy: Using the Power of Data and Analytics to Capture a Multibillion-Dollar Opportunity, January 2024

13 Digital Citizens Alliance, Good Money Still Going Bad, May 2015

14 Advanced Television, Advertising Fuels $1.34bn Piracy Market, August 2021

15 Parks Associates, Future of Video Streaming Piracy, September 2022

16 AAPA, Study on Malware and Audio/Visual Piracy Highlights Significant Risks to European Consumers, September 2022

Intertrust
ExpressPlay®

Building trust for a connected world.