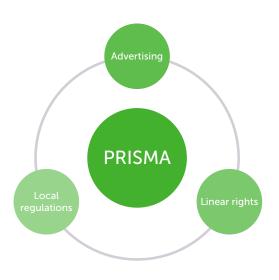


TV Programmers and TV Services Distributors are coming under increasing pressure to deliver fully personalized and relevant video experiences, achieve the highest monetization with advertising while also ensuring total compliance with distribution rights and local regulations.

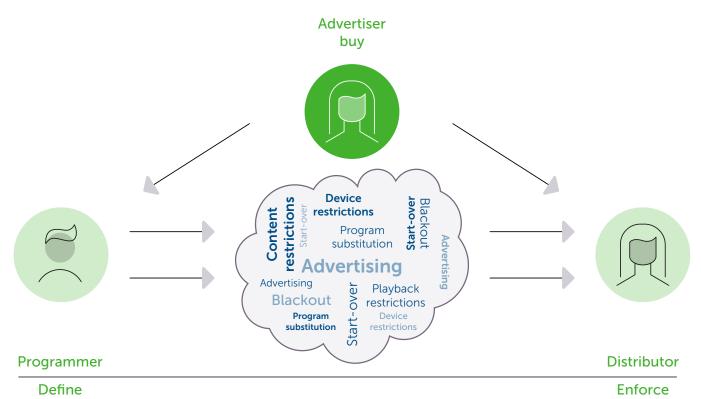
As subscribers demand an ever-increasing amount of highly engaging content, anywhere, at any time, on any screen, enabling these multiple consumption paradigms requires the content to be made available in a variety of formats.

Furthermore, an explosion of different distribution channels has created the opportunity for more stakeholders to profit from video content delivery.

In an era of soaring content acquisition rights and pervasive content digitization, maximizing revenues from every potential viewer is critical.



To manage the increasing challenges of content distribution negotiations, Media & Entertainment organizations need to find and distribute the quality content that their viewers will enjoy. Simultaneously, they must define (Programmers) and enforce (TV Service Distributors) linear rights & local regulations to enable the diversification of supporting business models as well as maximize return on investment, grabbing the monetization opportunity introduced by HTTP-based delivery and the one to one online communication enabled between advertisers and qualified audiences.



Advertising & Linear Rights Opportunities & Challenges

Bridging the gap between TV Programmers and Service Distributors

In order to define, distribute and enforce contractual and legal obligations such as blackout/alternate content insertion or legally mandated program substitution (for example SCTE18 based EAS, Emergency Alert Systems), delivering content has become increasingly complex for TV Programmers and Service Distributors especially given the increasing rise of IP consumption. Coupling such restrictions with the moneization opportunity enabled with Advertising and related ad insertion requirements whether in support of spot-based or impressions-based advertising business models adds even more complexity.

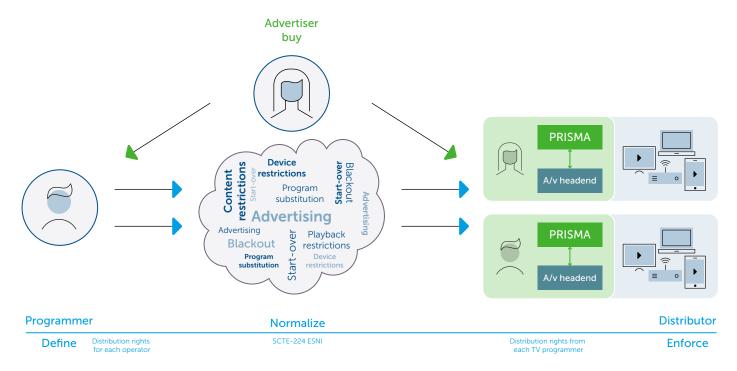
With the distribution of linear rights encapsulated within such an increasingly complex environment, content providers are leveraging SCTE-224 as a new standardized data model. Reliance on this recent standard normalizes the definition of the above-mentioned rules, and their distribution over HTTP. Up until recently these rules had been distributed over csv, emails, and an ageing interface (IO2).

By relying natively on SCTE-224 and exposing fully flexible ingest of Linear Ads Schedules (CCMS, SCTE-118-3) and Blackout Policies format ingest (SCTE-224, ESNI-I02, Disney-PCC, csv), all being normalized through SCTE-224, PRISMA is bridging the world between TV Programmers and Service Providers by streamlining the Linear Rights & Advertising information exchange process and enabling any content insertion related use case required at TV Service Distributor level.

Also, native ESNI 224 standard implementation within PRISMA paves the way to supporting programmers in defining and distributing such linear rights.

Additionally, the latest <u>SCTE-224 2018 revision</u> is initiating the presence of advertising metadata inclusion in the protocol, transitioning towards full standard based communication between programmers and distributors in support of both their linear rights and advertising agreements.

"ESNI can be used to communicate details regarding regional blackout/alternate content selection, market protection, or other content restrictions as they may relate to a defined audience. This method can also inform the distributor of other events such as advertising breaks and availability for digital ad insertion, network PVR record times and restrictions, or program information (i.e. improve accuracy of electronic program guide)."



Bridging the gap between TV Programmers and TV Service Distributors

Unifying advertising & linear rights across broadcast & IP

PRISMA is designed to provide TV Services Distributors (MVPDs, Programmers & Content Owners) with a modular, and convergent solution, enabling such viewing restrictions enforcement, as well as ad insertion in support of linear TV advertising or Targeted TV advertising utilising Server Side Ad-Insertion Ad Insertion (SSAI). This allows TV Services Distributors to streamline their costs by adopting a single solution enabling the full set of content insertion use cases they need to enforce.

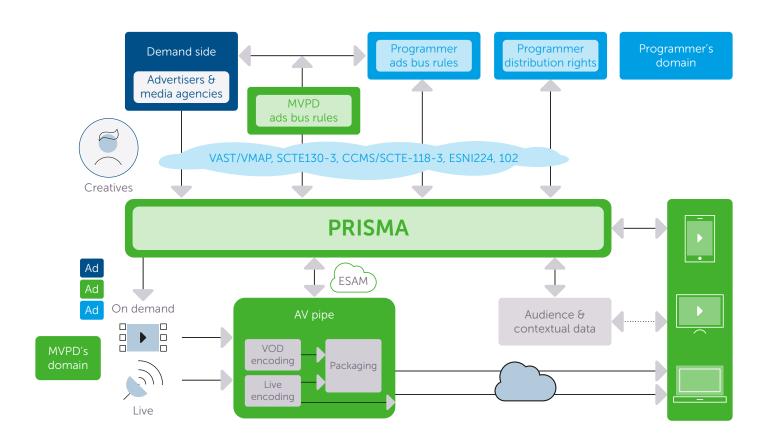
Motivated by either monetization with advertising or linear rights compliance business drivers, PRISMA provides a fully unified and standards-based communication layer between advertising & linear rights business systems (ad decisioning system, traffic & scheduling system, programmer's policies) and A/V broadcast and/or IP processing & delivery chains.

Recognizing that advertising & linear rights are the 2 variables within the same equation/relationship between Programmers and Distributors both from a business and technology viewpoint, PRISMA leverages the same technology foundations inherited from Video & Advertising Standards to unify advertising & linear rights content insertion requirements.

PRISMA	Linear rights	Advertising
Broadcast	√	√
IP	√	✓

From global to regional to user - based targeting depending on use cases and "last mile" delivery network specificities, PRISMA enforces such business rules and decisions both at:

- Control/command level: Ads/Policies schedules ingest, alternate content IP decisoning
- Processing level: IP with manifest manipulation or broadcast with TS splicing or with Aquila solutions' video baseBand splicing



Unifying Advertising & Linear Rights across Broadcast & IP

Leveraging Video & Advertising Standards at its core

PRISMA leverages pre-existing established video & advertising industry standards, avoiding the challenge of being locked into a single vendor's solution.

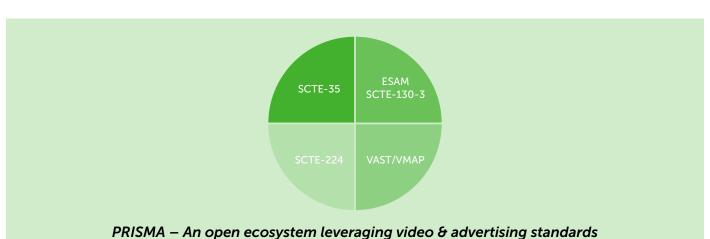
By leveraging industry standards MediaKind has built a wealth of expertise into the PRISMA solution and enables seamless integration within existing ecosystems such as Ad-Tech, media processing, delivery and consumption. It's clear that such standards are impacting the whole A/V processing & delivery chain and the reason that Mediakind's entire portfolio is strictly adhering to these standards, if and when applicable.

Video standards leveraged

- SCTE-224: Native ingest and the method events are stored regardless of the ingest type of format
- SCTE-35: In-band signaling, providing information about placement opportunity such as ad break start/end, program start/end
- ESAM: CableLabs ESAM Communication interface normalizes how encoders, TS processors, and packagers interface with PRISMA
 - Enforces processing rules at the headend level based on SCTE-35 or time-based (out-of-band ESAM)

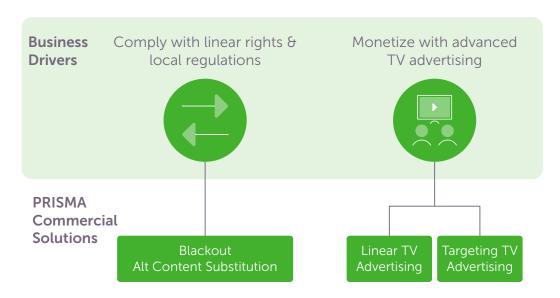
Advertising standards leveraged

- SCTE130-3: Largely leveraged in support of Cable US VOD inventory monetization.
- IAB: With VAST and VMAP, IAB is becoming the de-facto Ads interface in the industry, paving the way for Internet Advertising to meet TV





Advertising & Linear Rights Business Drivers & Use Cases



Content Insertion Business Drivers & PRISMA Commercial Solutions

Advertising & Linear Rights Business Drivers

Complying with Linear Rights (& Local Regulations)

Content insertion for new media consumption must support the same functionality as traditional broadcast methods and provide new functionality specific to video over IP.

Content blackout or custom slate insertion are essential in preventing the exposure of unlicensed content to consumers and ensuring full compliance with Programmers' policies. This is the case if content consumption occurs over "legacy" STB but also now over IP, distinguishing between In Home and Out Of Home media consumption.

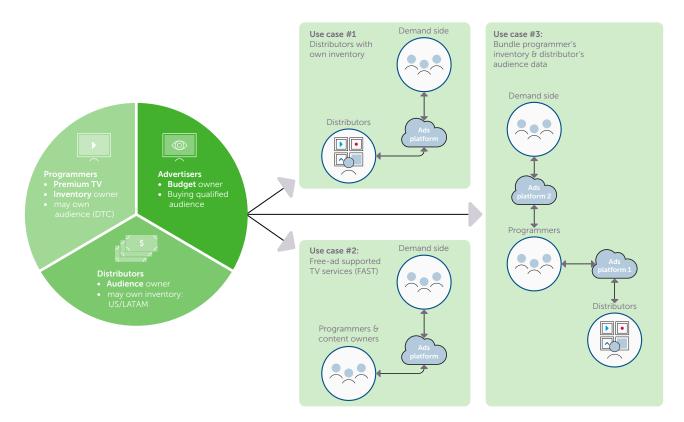
Complexity behind implementing these policies described in distribution agreements is multiplied by the number of criteria that drive such deals, especially now that they embrace not only Main Screen/STB "legacy" but also IP viewerships (zip codes, device types). This results in millions of possible combinations that require careful management, particularly in the case of large US operators.



Monetizing with Advanced TV Advertising

Uses Cases

The key ingredient to a successful Targeted (and Linear) TV Advertising recipe are the Advertiser's budgets set to reach qualified ϑ 1st party audiences in premium TV Inventories. There are 3 primary use cases for ad insertion and these are dependent upon inventory ϑ audience ownership.



Use case #1 Ad inventory may be granted by broadcasters to enable operators to monetize. When provided, the operator can leverage this inventory and proceed to ad replacement.

Use case #2 Broadcasters as well as OTT Pure Players vMVPDs need equivalent ad insertion/replacement capabilities for their Free Ad-Supported TV (FAST) ensuring the monetization of their Direct-To-Consumer (DTC) services.

- In parallel, broadcasters are also gearing towards ensuring their traditional TV viewership is addressable. Please refer to the "TV Advertising Trends & Opportunities" application paper published in H2 2020 for more details on this particular use case and related challenges.

Use case #3 A further use case consists of bundling programmer's premium TV inventory, enriched by an MVPDs' high quality, first-party segmented data inherited from long-standing relationships with end-users. Such a use case constitutes an alternative value proposition to the internet pure players for the Advertisers & Media Agencies, which, in turn, creates a further need for Ad Insertion/Replacement.

Linear vs Targeted TV Advertising Business Models

Two TV advertising business models co-exist today where needs arise in terms of Ad insertion/replacement. As described in the adjacent table these models require zone based ad insertion in the case of Linear TV Advertising and dynamic ad insertion/replacement down to the user in Targeted TV Advertising scenarios.

	Linear TV Advertising	Targeted TV Advertising
Business Type	Spot/ schedule-based	Impression-based
Advertising Currency	GRP (growth rate point)	CPM (cost per mile)
Targeting Granularity	Ad zone	User

PRISMA Commercial Solutions

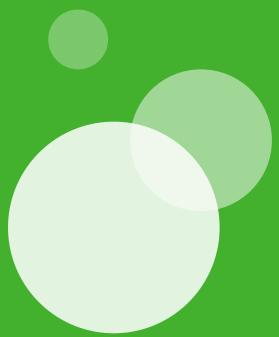
There are three PRISMA commercial solutions currently available:

Alternate Content & Blackout management for broadcast and IP/OTT delivery

Linear TV Advertising with combined Ad server and TS splicing capabilities

Targeted TV Advertising with Server-Side Ad Insertion (SSAI) for the monetization of Live, Near & Non-Live TV inventory across all IP enabled Audiences, down to the user





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