Simplifying Digital Service Providers' Multiscreen TV & Video Journey by Migrating the Content Supply Chain to IP
Summary

Catalyst

Historically, digital service providers (DSPs) such as cable TV, satellite TV, and telecoms operators have been late movers in the TV & video services (quad-play) landscape, but in the past 12 months they have been aggressively embarking on a journey to provide such services. The convergence of TV and video creates a unique value proposition for these DSPs, but their business and technology challenges are more diverse than those of broadcast TV & video providers and pure-play digital-born platforms such as Netflix and Hulu. Furthermore, building multiscreen video services demands a highly scalable, cost-effective, and unified approach to the content supply chain to improve average revenue per user (ARPU), average revenue per advertiser (ARPA), reach, customer retention rates, profitability, and time to market. For DSPs, migrating the content supply chain to IP is therefore vital in strengthening their presence not only in the TV & video market, but also in the broader connected rich media economy. This means leveraging next-generation platforms – cloud TV & video platforms.

For DSPs, cloud TV & video platforms facilitate the unification of TV & video content supply workflows (across cable TV, DTH, mobile TV, IPTV, and OTT) and their migration to IP.

Key findings

Top-level findings

- Migrating the content supply chain to IP is becoming a necessity to safeguard profitability.
- In a highly competitive and fragmented multiscreen video services market, time to market, operational excellence, and hybrid monetization are vital for sustainability, pushing DSPs to embrace cloud TV & video platforms.
- In the long run, a cloud TV & video platform helps a DSP to build a highly connected platform offering multiple services (both media and non-media) across diverse geographies at scale.
- Regional and local DSPs focused on lowering the total cost of ownership (TCO), improving the time to market, and enhancing multifaceted monetization avenues are early adopters.
- A unified cloud TV & video approach enables the launch of interactive TV & video services on continuous basis. Tier-1 DSPs still demand highly modular solutions with highly customized professional services capabilities.
- Asia and Latin America will be among the fastest-growing markets for cloud TV & video platforms in the next 12–18 months.

Vendor-benchmarking findings

- Highly vertically diversified technology capabilities (both upstream and downstream) have enabled Huawei, Cisco, and Kaltura to maintain their strong presence in this segment.
- MediaKind's triple-pillar approach enables it to outperform Verizon Digital Media Services (VDMS) and Comcast Technology Solutions (CTS) to maintain a tier-1 market challenger position.
Robust live-streaming and media monetization functionalities have enabled VDMS and CTS to strengthen their foothold in their home market in the short to medium term.

- Piksel, with its metadata management value propositions, is steadily improving its penetration of the tier-1 DSP segment.

**DSPs' TV & video services: The road to 2022**

**DSPs to play a key role in the connected rich media economy**

*Multiscreen TV & video services are the initial touchpoint*

A TV & video offering is fast becoming a key engagement tool, not only in media and entertainment but also in industries such as education, healthcare, and consumer goods. This is predominantly driven by the aggressive convergence of telecoms, media, and IT, and changing consumer demographics, purchasing patterns, access points, and competitive environments. The rapid evolution of this connected rich media economy is adding more complexity to the customer engagement ecosystem, gradually pushing enterprises to embark on the cloud transformation journey. As the traditional value chain is broken, and new video services (both media and non-media) and distribution channels emerge, enterprises are being pushed to build a robust multiscreen TV & video ecosystem, re-engineering their workflows to adapt to these continuously changing revenue models in the short and long term.

*Figure 1: The connected rich media economy (2018–22)*

Source: Ovum (August 2018)

In the next two to three years, DSPs are bound to play a vital role in this emerging rich media economy, due to their strong distribution network and edge presence in the consumer household. Next-generation customer engagement demands that DSPs not only migrate their legacy hardware, software, and services model to agile infrastructure and industry-specific solutions and services, but also differentiate themselves in an increasingly competitive business environment. As depicted in Figure 1 above, a robust multiscreen TV & video offering is the initial touchpoint in the wider globally
connected rich media economy. On a broader basis, the multiscreen TV & video offering should not only adapt to diverse engagement formats (from legacy to next-generation) but also help DSPs penetrate video-ready markets such as healthcare, education, government, and consumer goods. This will require DSPs to focus initially on creating a scalable, modular, and profitable multiscreen TV & video services providing premium and niche media content.

Profitability is a KPI in today's multiscreen market

Legacy infrastructure and siloed architecture are insufficient in meeting changing business priorities

Today's multiscreen TV & video services market is highly competitive, with close to 550 platforms worldwide. Traditionally, the majority of premium content owners have built their multiscreen platforms using costly prerequisite infrastructure and on siloed architecture frameworks, for example launching the same service in Colombia and Brazil but with a different user interface (UI), middleware, and online video delivery platform. This has not only impacted scale but also resulted in an enhanced content supply chain TCO. Ovum estimates that today, only 2–3% of multiscreen video services globally are profitable on a standalone basis (a bull case scenario). As the proliferation of DSPs continues, along with the rise in customer acquisition costs (including premium digital asset rights), DSPs are slowly being pushed to reduce these major technology challenges in order to achieve a positive business outlook in the long run, for example safeguarding profitability margins. Furthermore, as new services (both media and non-media) are integrated into DSPs user engagement ecosystems, their legacy siloed infrastructure will require highly tailored ICT services – systems integration (SI) and enterprise apps maintenance. This will result not only in complexities around reach, but also in a lack of cost synergies. Therefore, migrating to the cloud is necessary for sustainable competitive advantage.

Time to market, operational excellence, and hybrid monetization are vital for sustainability

Migration to the cloud helps address multiscreen TV & video priorities

In the connected platform economy, time to market, operational efficiencies, and multiple tightly integrated monetization avenues will be critical to enhance ARPU. These are also the primary business priorities in the multiscreen TV & video services segment, an integral portion of the wider connected platform economy.

Ovum's 2017–18 ICT Enterprise Insights survey¹ reveals that for more than a quarter (26–34%) of DSPs, improving time to market, improving operational efficiencies, and building a hybrid direct-to-consumer (D2C) monetization ecosystem are the three leading business priorities in the next 18 months (2017–19). The majority of DSPs are starting to build cost-effective localized multiscreen

¹ ICT Enterprise Insights presents the data from more than 6,300 interviews of CIOs and other senior IT decision-makers conducted between July and October 2017. The survey covered more than 60 countries worldwide, looking at industry technology trends across the financial services, telecoms and media, public services, utilities, and retail sectors.
video services that are tightly integrated with their legacy business activities to lower churn, which means embarking on a cloud transformation journey.

**Figure 2: DSPs’ top 10 business priorities in multiscreen video services (2017–19)**

<table>
<thead>
<tr>
<th>Priority</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>End-to-end automation of content supply chain</td>
<td>19.4%</td>
</tr>
<tr>
<td>Unification of legacy and digital TV operations</td>
<td>20.4%</td>
</tr>
<tr>
<td>Creating UHD OTT live streaming service to improve ARPU</td>
<td>21.6%</td>
</tr>
<tr>
<td>Accelerate profitability of non-linear TV &amp; video operations</td>
<td>22.6%</td>
</tr>
<tr>
<td>Multi-video format repository cost synergies (UGC, communications, entertainment, TV)</td>
<td>22.9%</td>
</tr>
<tr>
<td>Media distribution and preparation workflow economics (TCO)</td>
<td>23.8%</td>
</tr>
<tr>
<td>Creating personalized UX/UI on multiple platforms</td>
<td>24.5%</td>
</tr>
<tr>
<td>Building hybrid D2C monetization platform</td>
<td>25.9%</td>
</tr>
<tr>
<td>Improving operational efficiencies</td>
<td>29.8%</td>
</tr>
<tr>
<td>Improving metadata management to speed time to market</td>
<td>34.2%</td>
</tr>
</tbody>
</table>

Source: Ovum ICT Enterprise Insights (September 2017)

Furthermore, time to market a key performance indicator (KPIs) in the highly fragmented multiscreen video services segment. Premium content owners including DSPs have traditionally taken a very conservative approach to adopting cloud-based solutions and services, due to a fear of losing control of their digital assets. However, as investment in time-bound projects (such as live shows, sports, and original programming) increases, DSPs are being pushed to embrace agile, modular, and auto-scaleable content supply chain solutions and services to accelerate ROI in each media asset. Also, most secondary and tertiary business priorities, such as profitability, effective management of multi-video repositories, the unification of legacy (mobile) services and TV & video services, and end-to-end automated digital user lifecycle management, can be achieved by embracing highly integrated cloud-based workflows. Therefore, moving the content supply chain to IP becomes vital in delivering a hyper-personalized user engagement lifecycle on multiple screens.

**Migrating the content supply chain to IP is essential to compete with pure-play digital-born enterprises**

**Cloud TV & video platforms are at the core of this migration to IP**

Ovum’s 2017–18 ICT Enterprise Insights survey highlights that 17% of premium content owners invested in moving one or more content supply chain workflows to IP in 2017. Furthermore, more than one fifth (21%) migrated their media engagement workflow to IP.
Modular migration of the content supply chain to IP is a highly capital-intensive approach, taken predominantly by tier-1 premium content owners including DSPs that fear losing control of digital assets and operational ownership. In today's highly fragmented and competitive multiscreen video services market, competing with digital-born enterprises such as Netflix, Hulu, and Amazon requires launching enriched interactive services in real time, along with safeguarding operating margins.

Furthermore, DSPs face unprecedented challenges, such as

- increased churn
- increased content and user acquisition costs
- reduced ARPU and ARPA
- real-time restructuring of digital services along with embracing newer technology integration risks.

Therefore, a unified cloud TV & video platform, encompassing a pre-bundled content supply chain on IP, lies at the core each DSP’s vision of building a vertically integrated multiscreen video services ecosystem across multiple geographies.

**Snapshot of a cloud TV & video platform**

Ovum defines a cloud TV & video platform as follows:

- It is offered as a unified video platform-as-a-service, removing the architectural complexities of siloed legacy and non-linear TV & video – live streaming, subscription video on demand (SVOD), TV on demand (TVOD), IPTV, mobile TV, and ad-funded VOD (AVOD).
- It has an in-house or partner-enabled end-to-end content supply chain on IP, with capabilities such as media acquisition, media archiving, media re-purposing, media
preparation, media personalization, media distribution, media monetization, media engagement, and media enclave.

- It assists in building a robust multiscreen digital engagement ecosystem across diverse legacy and non-linear TV & video services in real time, including cable TV, satellite TV, mobile TV, IPTV, and OTT services.

Ovum believes that selecting the appropriate cloud TV & video platform to address core and non-core business priorities is vital in the long run. The following section highlights the technology and strategic roadmaps of eight cloud TV & video platform providers, along with their core competencies and unique value propositions. The rankings in this study are based on each vendor's ability to facilitate the building of multiscreen TV & video services for the provision of premium and niche media content only (not video for education, healthcare, and so on).

Cloud TV & video platform landscape analysis

Ovum Decision Matrix: Cloud TV & video platforms in the DSP industry, 2018–19

The global cloud TV & video platform segment is slightly consolidated, with Huawei, Cisco, and Kaltura each holding a strong market position in 2018. These market leaders have an overall ranking of >8, due to their unique long-term vision and capabilities across core content supply chain workflows, from media distribution and monetization to engagement. Furthermore, MediaKind, VDMS, and CTS have aggressively enhanced their upstream content supply chain capabilities, especially in media archiving and preparation, enabling each of them to secure a market challenger position, with an overall average ranking of 7.6.

Table 1: Cloud TV & video platforms in the DSP industry, 2018–19

<table>
<thead>
<tr>
<th>Market leaders</th>
<th>Market challengers</th>
<th>Market followers</th>
<th>Niche vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huawei</td>
<td>MediaKind</td>
<td>Brightcove</td>
<td>Piksel</td>
</tr>
<tr>
<td>Cisco</td>
<td>Verizon Digital Media Services (VDMS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaltura</td>
<td>Comcast Technology Solutions (CTS)</td>
<td></td>
<td></td>
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</tbody>
</table>

Source: Ovum

Huawei and Cisco have the greatest market presence. Kaltura is one of the fastest-emerging vendors, predominantly focused on expanding its footprint in Asian and Eastern European markets.
Figure 4: Expanded view of Ovum Decision Matrix: Cloud TV & video platforms in the DSP industry, 2018–19

Source: Ovum
Huawei (Ovum recommendation: Market leader); Score: 8.6

**Figure 5: Huawei radar diagrams**

Source: Ovum

**Overview**

Huawei is the biggest cloud TV & video platform provider worldwide, with approximately 18 customers in the DSP segment in 2018. The company is taking a unified approach, due to DSPs’ slow but steady shift toward live streaming (as a core engagement service), which means they are investing in technology platforms that offer faster time to market. Huawei’s long-term business strategy revolves around business priorities focused on:

- real-time integration of a local and regional premium content services catalogue
- enabling hyper-personalized user experience (UX)/UI
- end-to-end automated multi-dimensional monetization of each digital asset
- launching the multiscreen TV & video platform in less than 90 days
- lowering the customer acquisition cost by almost 60%
- unifying multiple non-linear TV & video workflows to safeguard operating margins.

**Strategic roadmap**

Huawei has a strong diversified market portfolio and customer segmentation mix in 2018. Although China is its core market, it has been steadily expanding its footprint in Western Europe, the Middle East, Latin America, and Asia-Pacific in the past 12–18 months. It has strong customer references in markets such as Spain, the Philippines, Saudi Arabia, and Pakistan. On the partner ecosystem front, Huawei has relationships with more than 100 technology affiliate networks, such as Verimatrix and NAGRA for digital rights management (DRM), Akamai for its content delivery network (CDN), and...
Sixty and Accedo for UX/UI. Finally, among the company's crucial unique selling points (USPs) in a highly competitive and fragmented space are its business-priority-specific (virtual reality, or VR, and 5G) and industry-specific (TV & video) "Labs-as-a-service" and its uninterrupted user engagement, with live TV switchover to an electronic programming guide (EPG) in less than 0.5 seconds.

**Technology roadmap**

Huawei's technology roadmap aims to assist DSPs in building "Our Own Digital Service Provider," i.e. multiple digital goods and services tailored for each audience across its lifecycle. Therefore, its significant technology upgrades and investments are focused on the core theme of the personalization of connected goods and services based on real-time audience behavior and psychological data intelligence. This has resulted in

- the acceleration of cognitive services (artificial intelligence, or AI) touchpoints across the video supply chain
- the enabling of ultra-premium (VR/UHD) interactive UX/UI
- a flexible back end (hybrid cloud) to create new monetization avenues in real time
- a broadcast viewing experience on digital platforms and services
- moving the edge of the network, with analytics embedded, to the household (through the set-top box)
- the expansion of the professional services catalogue (consulting, architecture design, and SI) to move toward becoming a long-term strategic partner rather than a siloed IT enabler.

Recently, the company has steadily upgraded its unified cloud TV & video functionalities on a short-term basis, predominantly focused on media acquisition, archiving, distribution, and engagement workflows:

- enhancing metadata aggregation capabilities
- horizontally integrating the media archiving portfolio (distributed storage support)
- extending the multi-video format catalogue with the addition of DASH support
- expanding network security functionality
- personalizing UX/UI plug-ins for smart TV applications.

**Ovum view**

Huawei ranks better across both upstream workflows (from media acquisition to re-purposing) and downstream workflows (from media preparation to enclave) across the content supply chain. Although it has carved itself a dominant market position among tier-2 and tier-3 DSPs in its core and non-core markets, the company needs to focus on securing tier-1 accounts and building a niche local and regional partner ecosystem to maintain its leadership position in the long run. On the technology front, managed multiscreen TV & video offerings will enable it not only to enhance the IT share of wallet, but also to acquire new local cable TV and telecoms operators embarking on a cost-effective video transformation journey.
Cisco (Ovum recommendation: Market leader); Score: 8.2

**Figure 6: Cisco radar diagrams**

Source: Ovum

**Overview**

Cisco is one of the leading cloud TV & video platform providers, with approximately nine referenceable customers globally. It has a well-balanced customer segmentation mix, with tier-1 and niche DSPs comprising almost half of its total portfolio in August 2018. This is predominantly due to its dual customer acquisition strategy, with both unified and modular approaches. The recent Permira-backed acquisition of the TV & video business from the wider Cisco business (by a company as yet unnamed, but referred to in this report as "Cisco"), including Infinite Video Platform (IVP), will help in re-engineering industry-specific functionalities (for DSPs, broadcasters, sports franchise owners, video gaming providers, and niche content aggregators) to deliver a converged user lifecycle engagement ecosystem. In 2018, its core target customers are DSPs primarily focused on improving time to market, reducing TCO, providing premium quality of experience (QoE), safeguarding ROI in each media asset, and providing a unique hybrid interactive services value proposition.

**Strategic roadmap**

Cisco has traditionally followed a customer adaptive business model, resulting in the aggressive organic expansion of its horizontally integrated cloud TV & video solution and services portfolio. Direct sales are its flagship go-to-market (GTM) strategy, alongside a slightly narrow partner ecosystem (with partners such as Gracenote, Adobe, and Evergent). In the past 6–12 months, its niche capabilities around TV & video anti-piracy services have strengthened its presence in both regional and local segments. North America and Europe are its core markets, followed by Latin America and Asia-Pacific. Its long-term strategic roadmap aims for a "pre-bundled unified cloud TV & video..."
platform to facilitate the launch of premium (UHD) OTT services at optimal costs in less than 90 days."

**Technology roadmap**

The company has been steadily adding new functionalities across the content supply chain to meet the changing business requirements of DSPs worldwide, including:

- enhancing the content search, syndication, and discovery workflow with the inclusion of a voice-based federated search add-on
- continuously upgrading multi-format video support functionality with the inclusion of 4K
- providing pre-packaged media archiving (storage) for both VOD and live-streaming assets
- unifying analytics (operations, content, and audience) to enhance customer retention rates, to minimize the fear of losing control of OTT TV & video services to a third-party vendor
- restructuring professional and managed services offerings to reduce business uncertainties and discontinuity risks for margin-pressed DSPs, especially in tiers 2 and 3.
- minimizing IP piracy revenue leakages via a 24x7 monitoring and advanced threat takedown proposition
- extending live-streaming functionalities (variable bitrate and multicast ABR) and multifaceted monetization functionalities (pre-integration of coupons and credit cards) to enhance ARPU
- lowering TCO by including ingest in the platform fees.

**Ovum view**

The media distribution workflow is one of Cisco's core competencies in the DSP transformation era, thanks to its roadmap focused on managed security-as-a-service and the optimization of technology operational costs. As OTT live streaming gradually becomes DSPs' primary user engagement tool, Ovum believes that Cisco's IVP can help it strengthen its position in the next-generation connected goods and services landscape, i.e. in markets such as media, healthcare, education, consumer goods, and so on. The company ranks higher than its peers in most of the upstream modules (media archiving, repurposing, and preparation) and downstream modules (media distribution) across the content supply chain, but its lack of cognitive services (AI) might hamper its long-term competitive advantage.
Kaltura (Ovum recommendation: Market leader); Score: 8.1

Source: Ovum

Overview

Kaltura is an early mover, with more than 10 DSP customers worldwide using its cloud TV & video platform in 2018. The company has well-balanced in-house and partner-led technology capabilities, resulting in enhanced penetration in tiers 1, 2, and 3 in regional and local markets. It predominantly targets DSPs focused on using cloud TV to replace their legacy TV solutions or as a way to enter the pay-TV space. As such, it focuses on challenges relating to hyper-personalized multiscreen UX/UI, multi-dimensional monetization avenues (from subscription, rental, and downloads to advertising), and higher dependencies on live TV streaming (i.e. with zero tolerance of TV service downtime).

Strategic roadmap

From a business perspective, Kaltura has a vertically integrated partner ecosystem with a strong concentration on the downstream end of media value chain – from the media personalization to engagement workflows. Although the company has a dual GTM strategy, its direct sales channel is dominant, where Kaltura acts as an SI, with slight shift toward indirect networks such as large SIs to accelerate market penetration in the tier-1 segment. Asia, Russia, and Eastern Europe are the fastest-emerging markets, enabling Kaltura to steadily diversify its market risks in the long run. North America and Western Europe are its primary markets in 2018. Although tier-1 telecoms operators such as Vodafone are its core referenceable customers, it is extending its presence in the regional satellite TV segment, thanks to its unified cloud TV & video platform approach.
**Technology roadmap**

Streamlining premium and niche content acquisition and syndication workflows to lower long-term customer retention costs, and reducing multifaceted distribution (cable, satellite, OTT, and IPTV) and monetization complexities are at the core of Kaltura’s technology roadmap in this space. These have paved the way for the launch of a unified operator console plug-in, giving DSPs flexibility in acquiring content repositories from diverse premium media asset owners across multiple geographies. Furthermore, building a D2C roadmap for DSPs demands the support of hybrid distribution infrastructure (cable, satellite, OTT, and IPTV) and monetization (from subscription to advertising) workflows in real time. Kaltura offers both of these unique value propositions through its data analytics and intelligence-driven capabilities across the downstream media value chain. Its recent launch of a targeted TV solution is a crucial differentiator in hyper-personalizing the user lifecycle, from onboarding to UX. Finally, the unification of legacy (mobile and broadband) and next-generation (TV & video services) internal and shared workflows, such as OSS/BSS, to enhance operational excellence is also a vital functionality.

**Ovum view**

As the fragmentation of users continues, placing unprecedented pressure on DSPs to enhance the ROI in each media asset, Ovum believes that Kaltura is well positioned to assist in delivering a hyper-local personalized experience anywhere and everywhere, resulting in improved ARPU in the long run. Its organic capabilities (metadata management at scale, content localization, content monetization, audience segmentation, centralized transcoding, and tailored live EPG) and inorganic capabilities (partner-centric customized recommendations, predictive analytics, e-commerce add-ons, and anti-piracy services) help it to achieve higher scores for the media acquisition, personalization, distribution, and monetization modules across the content supply chain. However, it needs a strategic focus on cognitive services (AI) and blockchain-embedded workflows to maintain its market share.
MediaKind (Ovum recommendation: Market challenger); Score: 7.8

Figure 8: MediaKind radar diagrams

Source: Ovum

Overview

MediaKind offers a highly horizontally and vertically integrated cloud TV & video platform worldwide, with approximately nine referenceable customers as of August 2018. It is following a unique triple-pillar approach to enhance its market penetration in the DSP space: unified, modular, and pre-bundled managed-services-based technology stack offerings. As multiscreen becomes the key growth strategy for both tier-1 and niche DSPs on a regional and local basis, the company plans to provide a highly scalable TV & video technology platform to assist in

- lowering time to market for new interactive services, with a microservices-led framework
- enhancing multiscreen UX/UI personalization to increase ARPU
- enabling zero tolerance of live-streaming business discontinuity to enhance customer retention and engagement rates
- providing a cloud-agnostic backbone to safeguard profitability margins.

Strategic roadmap

Scalability, reusability, operational productivity, and ease of third-party integration are at the core of MediaKind's long-term growth strategy. As there is a high level of convergence of business priorities across multiple niche premium content segments, the company plans to aggressively follow its core replication GTM strategy (i.e. enable the content supply chain at scale) to improve its market share in the DSP space. Although the company's customer segmentation mix is concentrated on DSPs with
fewer than 5 million subscribers, which provide almost 100% of its revenues, it plans to lower its market risks by targeting customers with more than 10 million subscribers in the period 2018–20. DSPs such as local and regional cable TV operators improving their multiscreen TV & video workflows are its flagship target customers in the next 12 months.

MediaKind is continuously extending its partner ecosystem (adding Cogeco Connexion in August 2018) to enable DSPs to launch next-generation interactive services. Finally, managed outsourced services are fast becoming a crucial differentiator for MediaKind, thanks to its pre-embedded professional services customer acquisition and retention strategy across the content supply chain.

**Technology roadmap**

In the past 12 months, MediaKind has predominantly enhanced its technology capabilities to reduce challenges around latency, personalization, quality of service (QoS)/QoE, and operational inefficiencies. Unified analytics are the foundation of its cloud TV & video platform, however, and it has made enhancements across the media acquisition, preparation, monetization, and enclave workflows. These include

- contextual ARPA with the addition of server-side ad insertion and client-side personalization
- a horizontally integrated encoding and transcoding portfolio (adaptive bitrate and linear)
- dynamic multi-format video conversion (SDR and HDR)
- single UX/UI for multifaceted monetization (e.g. virtual coupons and credit), leveraging a blockchain workflow.

**Ovum view**

Media enclave is one of MediaKind’s vital core competencies in the highly concentrated cloud TV & video platform segment for DSPs worldwide. The company's early move to organically expand its cognitive services (AI), blockchain touchpoints, and applications across the content supply chain will enable it to extend its footprint in its core markets (North America, Europe, and the Middle East) and non-core markets (Latin America and Asia-Pacific) in the next 18–24 months. Although the company outperforms its closest peers in most content supply chain modules, from media acquisition to enclave, enhancing its in-house managed TV & video anti-piracy services is crucial for its long-term competitive advantage.
VDMS (Ovum recommendation: Market challenger); Score: 7.5

**Overview**

VDMS is one of the fastest-growing cloud TV & video platforms in North America, with approximately nine customers as of August 2018. Delivering a highly converged TV & video services workflow (VOD, live streaming, and linear) has been its primary objective, resulting in building an organic horizontally integrated portfolio that includes Uplynk and Media Xperience Studio (for workflows from media acquisition to preparation), Smartplay (for one-to-one sessions, DRM, time control, and monetization), Edgecast CDN (for distribution), and Volicon (for engagement). As live streaming gradually becomes the key user engagement tool, VDMS plans to assist in meeting DSPs' business priorities related to

- achieving faster time to market with a pre-integrated and unified content supply chain proposition
- reducing TCO, especially for time-bound projects (e.g. sports and live events), along with live events operations
- effective management of a single/multiple live events catalogue, with zero tolerance of packet loss and latency
- pre-tailored UX anywhere and everywhere, to safeguard retention rates
- enabling a cloud-agnostic backbone to safeguard profitability margins

**Strategic roadmap**

Due to VDMS's localized customer acquisition and retention strategy, it scores slightly better than its peers for its long-term strategic roadmap. A good example is in media monetization, which is the core
gateway to acquiring new customers in India, just as media distribution is in Latin American markets. Furthermore, cable TV operators, especially live streaming, are the core target customers today and in the next 18–24 months. The company has significantly lowered its free cashflow margin risks via the steady diversification of its customer segmentation mix (tier-1 customers account for roughly 10% of its total business), but its high market concentration risk, with North America contributing the majority of its revenues, is a concern. That said, VDMS plans to aggressively increase its footprint in the Indian, Asia-Pacific, and Latin American markets through direct sales and CDN capacity enhancement in the next 12–18 months. Recently it has been steadily increasing its partner ecosystem both horizontally (on the cloud front) and vertically (on the content supply front), predominantly focusing on niche affiliate networks such as Cleeng and Microsoft Azure. Finally, the core unique value proposition of Uplynk is its deep integration with the Edgecast CDN, which ensures that its simplified workflow can scale to deliver OTT live streaming to broadcast-sized audiences. The personalization at scale is enabled by Uplynk’s Smartplay (DRM, server-side ad insertion, catch-up TV, and low live latency).

**Technology roadmap**

In the past 12 months, VDMS has invested predominantly in downstream content supply chain workflows, including:

- moving the edge closer to the household, along with optimizing the media distribution workflow
- upgrading to ultralow latency
- strengthening its content management and media engagement workflows (CMS plus app building, in close tie-ups with strategic partners)
- extending live-streaming support (MPEG-DASH), multi-video format support (1080p60 and Dolby DD+ audio codec), and DRM support (FairPlay, PlayReady, and Widevine for live and VOD)
- establishing proofs of concept on QoS/QoE monitoring via its Volicon module, along with cognitive services (AI).

**Ovum view**

In the past 12 months, VDMS has managed more than 65,000 live events. As reach and multiscreen avenues remain the top two business priorities for both tier-1 and niche premium content owners, Ovum believes that VDMS's flexible and streamlined cloud TV & video platform is well placed to meet these changing revenue model dynamics. Although it meets industry expectations, and its scores are average across the downstream content supply chain modules (from media preparation to enclave), building managed multiscreen UX/UI personalization and anti-piracy capabilities will enhance its market share in the DSP space in the long run.
CTS (Ovum recommendation: Market challenger); Score: 7.5

**Figure 10: Comcast Technology Solutions radar diagrams**

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**Overview**

Comcast Technology Solutions (CTS) provides one of the oldest cloud TV & video platforms in North America, predominantly helping cable TV and telecoms operators embark on their multiscreen monetization journey. It follows both a unified and modular approach in this space to enhance its customer segmentation mix in the medium to long term. CTS predominantly focuses on DSPs for which the leading business priority is multiscreen and pain points include:

- reducing downstream workflow TCO (from media preparation to engagement)
- unifying siloed non-linear TV & video workflows to create a converged multiscreen UX, enabling higher operational productivity
- improving multifaceted monetization avenues (e.g. subscription, transaction, e-commerce, and advertising)
- optimizing UX on multiple devices and screens to enhance engagement rates
- enhancing the reach of each media asset to increase long-term ROI and profitability.

**Strategic roadmap**

The company has recently been through a restructuring phase, resulting in an aggressive strategic roadmap focused on accelerating growth for premium content owners (including DSPs), strengthening its multiscreen video services ecosystem. Furthermore, it has laid out a robust indirect channel customer acquisition model to lower its long-term dependencies on its home market, the US. Its reseller and SI partners in Middle Eastern, Asian, and DACH (Germany, Austria, and Switzerland)
markets are Qvest Media and PlazaMedia. On the partner ecosystem front, CTS still has a slightly narrow portfolio (approximately 50 partners) compared to its close competitors in the space. Finally, its unique approach of "Partner as a Business," especially in the DSP market, has yielded positive dividends in the past 12–18 months (2017–18).

**Technology roadmap**

Compared to its closest peers in the cloud TV & video platform space for DSPs, CTS has a slightly slower technology and professional services upgrade cycle. In the past 12–18 months, it has predominantly focused on extending its media acquisition, distribution, and monetization capabilities via organic and inorganic investments:

- It acquired Watchwith, enabling the unification of metadata repositories along with the creation of highly interactive monetization avenues on multiple platforms (e.g. coupons, e-commerce, promotions, and in-video advertising).
- It has streamlined ad-insertion and placement workflows through the AdStor module.
- It has optimized QoE on multiple devices for each user, in partnership with DLVR.
- It launched its Media Technology Lifecycle Management (MTLM) framework to facilitate the unification of both legacy and digital TV & video workflows, safeguarding operating margins.

**Ovum view**

With the cost of content and the fragmentation of users increasing and media consumption platforms continuing to proliferate, pushing DSPs to leverage cost-effective video logistics workflows, Ovum believes CTS is well positioned to meet these changing business dynamics. Furthermore, building a highly vertically integrated partner ecosystem across the content supply chain, from media acquisition to enclave, is key to enhancing customer retention rates. Finally, although CTS is ranked higher than its peers for most of the downstream content supply chain modules, such as media distribution and monetization, it should steadily focus on enhancing its capabilities around managed security and multiscreen TV & video platform-as-a-service to move ahead of the competition in the long run.
Brightcove (Ovum recommendation: Market follower); Score: 7.4

Figure 11: Brightcove radar diagrams

Source: Ovum

Overview

Brightcove is one of the fastest-growing cloud TV & video platforms in Asia-Pacific, with approximately 10 DSP customers globally in 2018. Traditionally, niche content aggregators, TV & video broadcasters, and digital marketing companies have been its core customers, but with live-streaming investment by DSPs increasing, it has steadily extended its footprint in this segment in the past 24 months (2016–18). Its business vision is to lower the challenges related to

- TCO
- live-streaming profitability
- global support and services
- third-party integration
- operational excellence with zero tolerance of TV & video services disruption.

Strategic roadmap

Brightcove’s strategic roadmap is based on enabling DSPs to create smart viewership and monetization workflows at optimal cost. This has resulted in it following a hybrid market positioning approach: unifying commoditized workflows and offering highly tailored modules with dynamic architecture needs. Furthermore, in its content supply chain, the company has one of the most highly vertically integrated partner ecosystems, with more than 150 partners for modules from media acquisition to enclave. Although it has global penetration, its primary market is Asia-Pacific, with a
strong presence in Japan, Southeast Asia, and Australia and New Zealand (ANZ). Finally, horizontally diversified professional services (SI, consulting, and architecture design) are among its core USPs, generating close to 10% of its revenue mix (2017–18).

**Technology roadmap**

Delivering a converged interactive user engagement ecosystem is at the core of Brightcove’s technology roadmap. This has resulted in continuous upgrades to its media acquisition, preparation, monetization, and enclave workflows for the past 12 months:

- in cognitive services (AI), embedding context-aware encoding capabilities to lower upstream workflow costs in media preparation and downstream costs in media distribution while improving overall perceptual quality
- enhancing the video metadata lifecycle with the addition of creation and activation time-frame reporting plug-ins
- providing browser and mobile support for VR media assets
- localizing audio assets
- forming a strategic partnership with Fastly to enhance dynamic distribution functionality
- providing live DRM support to enhance its premium protection capabilities
- extending its strategic alliances to enhance multi-dimensional monetization avenues, especially in e-commerce and TVOD.

An optimized TV & video logistics workflow and pre-packaged live-streaming services lowering media archiving and distribution costs are crucial differentiators for Brightcove in the highly complex cloud TV & video space.

**Ovum view**

Profitability and just-in-time integration of new services are becoming DSPs’ KPIs worldwide, not only to safeguard operating margins, but also to reduce customer churn. Ovum believes that Brightcove is able to deliver a highly localized multiscreen TV & video platform to meet the continuously changing business requirements in the premium content segment. The content search, syndication, and discovery workflow is crucial for DSPs to lower churn, so a lack of investment in this functionality might hamper Brightcove’s long-term competitive advantage in this highly competitive landscape.
Piksel (Ovum recommendation: Niche); Score: 6.4

Figure 12: Piksel radar diagrams

Overview

Piksel is one of the fastest-emerging cloud TV & video platforms, with a strong focus on tier-1 DSPs worldwide in 2018. Although the company has well-balanced competencies across the media value chain, it has aggressively invested in re-engineering its upstream capabilities (from media acquisition to preparation) through its flagship "Fuse Manager" offering (built on microservices architecture, called the Piksel Palette) in the past 12–18 months. It primarily targets DSPs with business priorities focused on

- reducing inefficiencies across metadata management and TCO of the entire content supply chain
- improving operational excellence through end-to-end automation
- needing highly customized third-party integration and premium consulting services to reduce bottlenecks in both technology and business growth roadmaps.

Strategic roadmap

From a business perspective, Piksel is following a modular market positioning approach to strengthen its penetration of the tier-1 cable TV and content aggregator segments. The company has narrow but specialized partner ecosystem, which includes Signiant (for media acquisition), Telestream Vantage (for media preparation), XroadMedia (for media personalization), and Friend MTS (for media distribution) which is an essential differentiator in highly fragmented business environment. In the past six months, it has steadily strengthened its strategic tie-ups with Aspera, Telestream Vidchecker,
AWS Elemental, and Interra Baton. Historically, direct sales have been Piksel's prominent GTM strategy, but it is gradually expanding its indirect channels, such as its reseller and SI partnerships, to lower its free cashflow margin risks. North America and EMEA are its primary markets in 2018. Although tier-1 cable TV operator Liberty Global is its flagship referenceable customer, the extension of its footprint into regional and local DSP segments (tiers 2 and 3) to diversify its customer segmentation mix is a key growth strategy in the next 12–18 months (2019).

**Technology roadmap**

Streamlining the content search, syndication, and discovery workflow to reduce churn, enabling the cost-effective launch of UHD OTT live-streaming services at scale, and improving multiscreen TV & video time to market are at the core of Piksel's technology roadmap. This has pushed it to embark on a threefold value proposition, encompassing Fuse Manager, Fuse Publisher, and Digital Showcase modules, reducing the pain points across the content supply chain. Fuse's primary competency lies in creating a single metadata source template for each media asset for real-time repurposing and use on multiple platforms, while Fuse Publisher enables the unification of media distribution workflows to support a "content anywhere, everywhere" growth strategy. Digital Showcase assists in building a just-in-time OTT TV & video service, due to its microservices-based converged upstream and downstream workflows, lowering the deployment time frame, especially for margin-pressed niche premium content owners.

The unification of metadata (both operational and descriptive) also helps Piksel extend its capabilities around content localization, multifaceted version creation (closed captioning), and monetization workflows, resulting in increased ROI in each media asset. Finally, its horizontally integrated professional services portfolio is a vital differentiator in creating a tailored UX/UI across multiple screens and devices.

**Ovum view**

As multiscreen TV & video services become a core business activity for DSPs, Ovum believes that Piksel's service-oriented framework will assist in creating a converged user lifecycle engagement ecosystem in the long run. Although the company ranks relatively higher than the market leaders in most of the upstream workflows, such as media acquisition, re-purposing, and preparation, it needs to steadily invest in predictive analytics, cognitive services (AI), blockchain, and QoS/QoE optimization functionalities to improve its competitive edge.

**Recommendations for DSPs**

**Cloud TV & video platform value proposition and check-list**

In migrating the content supply chain to IP leveraging a cloud TV & video platform, DSPs should demand a robust vendor roadmap with a valid checklist that meets most of the business priorities highlighted in Figure 2 and detailed below.
Media acquisition on IP (given the continuing explosion in descriptive metadata and the ongoing addition of new digital services)

- The close integration of content syndication with unified metadata management functionality is crucial to acquire niche premium media assets in real time. DSPs need to secure cost-effective content repositories to carve a niche in the digital TV & video space.
- Leveraging new file transfer protocol (MTP/IP) is essential in reducing high-volume data latency across multiple facilities in diverse geographies.
- An AI-embedded media acquisition workflow is critical to prevent premium content compliance leakages.
- Complexities in the integration of third-party metadata, data, and information will rise with the growth of the digital services catalogue to include content for other industries such as healthcare and education. End-to-end automation is vital, which means rejecting manual workflows.

Vendor capabilities: The overall average ranking is 8.5, meaning the module is quite commoditized across the content supply chain, with most vendors providing the competencies mentioned above.

Media archiving on IP (managing both VOD and live-streaming assets at scale)

- Pre-bundled storage (Origin storage) support is essential to lower TCO in the long run.
- Horizontally diversified content management capabilities around metadata, VOD, EPG, time-shifted TV (TSTV), and DVR are vital.

Vendor capabilities: The overall average ranking is 8.3. This means some additional customization is required to meet changing business needs, such as the separation of compute and storage layers, as upgrading the former for each incident is highly capital-intensive.

Media re-purposing on IP (given the rapid rise in both media and non-media IPs and contractual complexities)

- Managed ongoing contract and royalty administration across multiple screens will lower rights-based revenue leakage.
- Unified analytics-led multi-platform sales usage and royalty processing will optimize content acquisition costs in the long run.
- Federated voice search capabilities will streamline the content search, syndication, and discovery workflow.

Vendor capabilities: The overall average ranking is 6.9, due to the lack of platform business process outsourcing (BPO) and multi-platform rights and royalties analytics and reporting capabilities. Tight integration with multiple services (IP) such as Netflix, Hulu, and local video properties is vital, along with embedding associated metadata to reduce churn.
Media preparation on IP (as UHD and live content value will rise by two and half times in the next 18 months)

- DSPs should push for IP-based compression, protection, monitoring, and signal processing. Production assets should be commercial off-the-shelf (COTS) and cloud-based to enhance economies of scale (i.e. scalability).
- Decentralization of the media preparation workflow will lower TCO (i.e. producing more from less).
- Strengthening WAN-centric real-time workgroup collaboration and editing will quadruple the reach of each media asset across multiple devices and geographies.
- Extending both audio and video localization, including subtitles, will improve local content repositories. Language support is critical for tier 1 (English, Spanish, German, French, and Chinese), tier 2 (local Eastern European and Asian), and tier 3 (local Middle Eastern and African).

| Vendor capabilities: The overall average ranking is 8.3. Most of the cloud TV & video platform owners have expanded their capabilities via strategic local and regional partners to reduce complexities in the media preparation workflow. |

Media personalization on IP (moving toward the second wave and beyond)

- A tailored video player framework that supports a minimum of 100 devices is essential to streamline the multichannel publishing workflow.
- Partner-enabled personalized recommendation is the traditional approach, but building this in-house, tightly integrated with unified analytics, is essential in the long run. A big data analytics module tie-up is becoming essential.

| Vendor capabilities: The overall average ranking is 7.1, due to the traditional focus on contextual content and advertising rather than on end-to-end user lifecycle management. Also, most of the cloud TV & video platform owners have expanded their capabilities via strategic local and regional partners to reduce complexities. In the long term, building in-house competencies will be a key differentiator, with tight integration with big data and predictive analytics functionalities. |

Media distribution on IP (converting unconventional pirates into paying customers)

- Spend on managed TV & video anti-piracy services is estimated to be close to $1.1bn in 2018. This in-house capability includes piracy intelligence aggregation, forensic labs for threat detection, legal support, and day-to-day monitoring and takedown capabilities to convert unconventional pirates into transaction-based paying customers.
- Hybrid network distribution back-end support for the launch of multiscreen video services across diverse geographies is vital. A good example is the launch of a given OTT TV & video service both in India on cable TV and in Pakistan on an IPTV backbone.
- A push toward live-streaming latency of less than three seconds on multiscreen video services will provide higher recurring revenues.
- Automated digital testing will optimize QoS/QoE.
Vendor capabilities: The overall average ranking is 8.3, with most vendors aggressively investing in creating unprecedented value across the media distribution workflow with early migration to IP. (Figure 3 reveals that 38% will have fully deployed a media distribution workflow on IP in 2018.)

**Media monetization on IP (a one-stop-shopping experience)**

- Unification of revenue management functionalities across both legacy and multiscreen video services will improve operational efficiencies and reduce losses caused by charging inefficiencies.
- The tight integration of e-commerce and content activation capabilities is key in migrating UX from media consumption to "e-tailing."

Vendor capabilities: The overall average ranking is 8.3, as most of the video players in this market have embedded e-commerce capabilities.

**Media engagement on IP (multiscreen personalized UX/UI, anywhere and everywhere)**

- Horizontally integrated multi-platform apps development partnerships – with more than 30 partners – are necessary to lower business discontinuity risks.
- Partner-led personalized UX for every digital user across multiple screens also requires pre-integrated headless content management capabilities.

Vendor capabilities: The overall average ranking is 6.8, due to vendors having a highly partner-dependent workflow, with fewer vendors today increasing investment in in-house multiscreen UX personalization.

**Media enclave on IP (enriching content value and lowering storage costs)**

- Ovum believes that content enrichment and a reduction in storage costs are two key ways in which premium content owners including DSPs can apply cognitive services capabilities.
- The core applications of blockchain for DSPs include new monetization avenues, the reduction of rights and royalties' revenue leakage, the streamlining of creative workgroup collaboration, the acquisition of unique content at optimal prices, and the increase of ARPA.

Vendor capabilities: The overall average ranking is 3.4, due to the lack of steady investment in a media enclave roadmap, except for voice-led search capabilities.

Professional services with guaranteed service-level agreements (SLAs) are essential to reduce inefficiencies across the content supply chain on the IP transformation journey. Also, horizontal diversification, such as consulting, SI, and architecture design, will be necessary in the short to medium term. Guaranteed SLAs, especially across live-streaming workflows, are essential to improve ROI in cloud TV & video platform deployment and lower business discontinuity risks.
Finally, a cloud TV & video platform not only assists in creating a robust multiscreen TV & video services portfolio, meeting both core and non-core business priorities such as achieving hybrid D2C monetization and improving time to market, but also enables the tight integration of future rich media experiences in the areas of consumer goods, education, healthcare, government, and utilities.

**Appendix**

**Methodology**

- Vendor and DSP briefings.
- Quantitative and qualitative comparison of products.
- Pre- and post-trade show meetings and briefings such as at IBC and NAB.

**Vendor ranking criteria**

**Content supply chain (Technology) assessment**

Ovum analysts assign vendors a score from 1 to 10 for each of the nine content supply chain modules assessment criteria, and each module score is then multiplied by the respected weighted average score to calculate the normalized rating. The normalized rating scores for the nine modules are then added to calculate the technology assessment score for each vendor. The nine content supply chain modules along with their associated functionalities are as follows:
- **Media acquisition**: The extent to which the vendor offers functionalities around upload and ingest (file transfer), metadata management, and data warehousing.
- **Media archiving**: The extent to which the vendor offers functionalities around video asset management, storage (includes high-performance shared), and content management.
- **Media re-purposing**: The extent to which the vendor offers functionalities around rights and royalties and content search, syndication, and discovery.
- **Media preparation**: The extent to which the vendor offers functionalities around production asset management (PAM), multiple video formats, editing, transcoding, and content localization.
- **Media personalization**: The extent to which the vendor offers functionalities around video player framework, order to activation, personalized recommendation, and predictive analytics.
- **Media distribution**: The extent to which the vendor offers functionalities around CDN, DRM, anti-piracy services, and QoS/QoE (optimization).
- **Media monetization**: The extent to which the vendor offers functionalities around ad-insertion, data management platforms, and multiple monetization avenues from subscription to e-commerce.
- **Media engagement**: The extent to which the vendor offers functionalities around UX/UI and multiplatform applications.
- **Media enclave**: The extent to which the vendor offers functionalities around cognitive services (AI) and blockchain.

Also, Ovum splits the content supply chain into upstream (media acquisition to preparation) and downstream (media personalization to enclave) to highlight the diverse technology focus/investment of each vendor.

**Strategic assessment**

The strategic/business assessment is based on six categories, each with a maximum score of 10, and associated weighted average scores assigned through our discussions with DSPs in the past six months. The final ranking is calculated in a similar way as the technology assessment. The six categories are as follows:

- **Long-term strategic roadmap**: The amount of investment in building a clear long-term cloud TV & video technology stack vision and roadmap since 2017.
- **Diversified customer base**: The mix of tier-1, tier-2, and other DSPs as long-term recurring customers.
- **Partner ecosystem differentiation**: The extent to which the vendor has formed strong technology and strategic partners to meet the requirements of a highly complex cloud TV & video workflow and deliver an unprecedented UX.
- **Geographical reach**: The extent to which the vendor has reduced its market risks and dependence on its home or primary market.
• **Unique market positioning**: The degree of unique market presence and positioning across the vendor’s core and non-core markets. This includes its niche value proposition offered to different DSPs on a short- and medium-term basis.

• **Market presence (number of customers)**: The total number of customers leveraging an end-to-end cloud TV & video platform for their multiscreen TV & video services (legacy, mobile TV, IPTV, and OTT).

The weighted average score of the technology and strategic assessments is 50:50. Therefore, the final ranking is average of the two.

**Ovum ratings**

• **Market leader**: This category represents the leading solutions that we believe are worthy of a place on most technology selection shortlists. The vendor has established a commanding market position with a product that is widely accepted as best-of-breed.

• **Market challenger**: The solutions in this category have a good market positioning and are selling and marketing the product well. The products offer competitive functionality and a good price-performance proposition, and should be considered as part of the technology selection.

• **Market follower**: The solutions in this category are typically aimed at meeting the requirements of a particular kind of customer. As a tier-1 offering, they should be explored as part of the technology selection.

• **Niche vendor**: The solutions in this category have a unique offering, and the vendors have differentiated themselves in the market successfully in those niche areas.

As per Ovum’s taxonomy, DSPs are categorized into six main sub-segments pertaining to their global subscriber base (not limited to existing non-linear TV & video subscriber numbers) for their core business activity. Tier-1 DSPs have more than 15 million subscribers, tier-2 DSPs have 10–14.99 million; tier-3 DSPs have 5–9.99 million; tier-4 DSPs have 1–4.99 million; tier-5 DSPs have 0.55–0.99 million; and tier-6 DSPs have fewer than 0.5 million.

**Assessment template**

<table>
<thead>
<tr>
<th>Table 2: Assessment template</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cloud TV &amp; video platform</strong></td>
</tr>
<tr>
<td><strong>Technology capabilities assessment by modules (50% overall weighted average)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Media value chain modules on IP</th>
<th>Core functionalities</th>
<th>Weighted average score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Media acquisition</strong></td>
<td></td>
<td></td>
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<tr>
<td>Upload ingest (file transfer)</td>
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<td>5%</td>
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<tr>
<td>Metadata management</td>
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<tr>
<td>Data management (warehousing)</td>
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<td><strong>Media archiving</strong></td>
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<tr>
<td>Video (media) asset management</td>
<td></td>
<td>10%</td>
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<td>Storage</td>
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<tr>
<td>Content/information management</td>
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<td><strong>Media re-purposing</strong></td>
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<tr>
<td>Rights &amp; royalties</td>
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<td>5%</td>
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<tr>
<td>Multi-platform rights, sales, usage reporting &amp; compliance</td>
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<tr>
<td>Platform BPO (ongoing contract interpretation and data entry services)</td>
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<tr>
<td><strong>Content</strong></td>
<td><strong>Explanation/definitions</strong></td>
<td><strong>Weighted average score</strong></td>
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<tr>
<td><strong>Media preparation</strong></td>
<td>Content syndication, search, discovery</td>
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<td>Video production asset management</td>
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<td>Playlist management</td>
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<td>Multi-video format support (SD, HD, 4K/8K, VR/AR)</td>
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<td>Localization (language support)</td>
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<td>Version creation</td>
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<td>Closed captioning</td>
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<td>Editing</td>
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<td></td>
<td>Transcoding/encoding</td>
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<tr>
<td><strong>Media personalization</strong></td>
<td>Customized player framework with fragmented device support</td>
<td>10%</td>
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<td></td>
<td>OTT/IPTV/live streaming support (on STB, mobile)</td>
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<td></td>
<td>Personalized recommendation</td>
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<td></td>
<td>Customized order-to-activation support</td>
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<td></td>
<td>Predictive analytics</td>
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<tr>
<td><strong>Media distribution</strong></td>
<td>Multi-CDN</td>
<td>20%</td>
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<td></td>
<td>Multi-DRM</td>
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<td></td>
<td>Piracy services support (watermarking, fingerprinting)</td>
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<td></td>
<td>QoS/QoE support (incl. network performance optimization &amp; analytics)</td>
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<tr>
<td><strong>Media monetization</strong></td>
<td>Ad-insertion (client/server side) support</td>
<td>15%</td>
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<tr>
<td></td>
<td>Support all monetization models (SVOD, TVOD, AVOD)</td>
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<td></td>
<td>E-commerce add-on</td>
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<td></td>
<td>Data management platform (DMP) support</td>
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<tr>
<td><strong>Media engagement</strong></td>
<td>Multiscreen tailored UX/UI</td>
<td>10%</td>
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<tr>
<td></td>
<td>Mobile (TV) integration support</td>
<td></td>
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<tr>
<td></td>
<td>Customized user-lifecycle management (billing, engagement touchpoints)</td>
<td></td>
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<tr>
<td></td>
<td>Multi-platform apps development &amp; maintenance support</td>
<td></td>
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<tr>
<td><strong>Media enclave</strong></td>
<td>Cognitive services (AI)</td>
<td>5%</td>
</tr>
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<td></td>
<td>Blockchain</td>
<td></td>
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</tbody>
</table>

**Strategic road-map (50% overall weighted average)**

<table>
<thead>
<tr>
<th><strong>Explanation/definitions</strong></th>
<th><strong>Weighted average score</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Long-term strategic road-map</strong></td>
<td>What is the GTM today and in the next two years? What is the growth strategy today and in the next two years? Which are the crucial business priorities focused around in this market? What is the long-term vision for you in this market?</td>
</tr>
<tr>
<td><strong>Diversified customer portfolio</strong></td>
<td>What is the split of customer portfolio between Tier I, Tier II, Tier III, Tier IV, Tier V, and Tier VI today and will be in next 2 years? How is this split between digital service providers i.e. cable TV, satellite TV, and Telco-OTT</td>
</tr>
<tr>
<td><strong>Partner ecosystem differentiation</strong></td>
<td>Do you have narrow or vertically integrated partner ecosystem? Please state as applicable</td>
</tr>
<tr>
<td><strong>Geographical reach</strong></td>
<td>Which are the core and emerging markets today and in the next two years?</td>
</tr>
<tr>
<td><strong>Unique positioning</strong></td>
<td>List the top five core differentiators in this segment?</td>
</tr>
<tr>
<td><strong>Market presence (number of customers)</strong></td>
<td>How many end-to-end cloud-based customers do you have and what is the growth percentage in past 12 months?</td>
</tr>
</tbody>
</table>

Source: Ovum
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