Video Content Security Scorecard:
2020 Report Excerpts

Understanding the market's top content security vendors, their positioning, their strategies, and their strengths

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Market context and background

This *Scorecard* evaluates content security vendors on a range of criteria that we have defined internally, and refined externally via discussions with two classes of firms: content security *vendors*; content security *buyers*.

The *Scorecard* is designed to achieve a disarmingly simple, three-fold goal: to identify the security segment's *Leaders, Challengers, and Established* firms. In pursuance of this goal, we examine vendors' portfolios in detail, touch upon their product and client strategies, and review their current – and what we deduce to be their likely long-term – positioning within the value chain.

In order to understand how we evaluate the market's leading vendors, *why* we reward the possession of specific technologies, and *how* we weigh vendors' variegated product strategies, it is essential to visit how the security segment is changing, where its value resides, and where new value is being created.

Content security is part-and-parcel of the digital media ecosystem. Indeed, video encryption and authentication forms the basis of the pay entertainment business model itself: those who *pay* for content are granted *access* to content.

What's changed? In a word: the video transmission medium itself.

For decades, the pay TV industry has relied on the broadcast transmission medium, and therein, on closed-network transmission infrastructure. This mode of diffusion has given rise to a USD 1.2Bn, broadcast conditional access (CA) security industry.

Good things never last. We expect the security segment to contract by 1.4%, year-on-year and every year, through 2023. Two market forces are precipitating this contraction. One, broadcast CA has effectively become a commodity, and is shedding value. Two, the broadcast medium itself is being replaced by point-to-point OTT transmission mediums.

Critically, this aggregate contraction belies sources of growth, sources of value creation, and opportunities that are *very large*, and that *very nearly* offset the industry's net direction of change.

We segment the video security industry into two technology families: media encryption solutions; anti-piracy services.

Encryption comprises broadcast CA solutions – typically deployed on operator-managed platforms – as well as proprietary, digital rights management (DRM) solutions, which typically run atop unmanaged devices. The industry's encryption component is contracting. These solutions, on balance, are ill-equipped to secure the media ecosystem's embrace of the OTT medium, and studios' and content owners' embrace of direct-to-consumer (D2C) strategies.

Anti-piracy services comprise multi-DRM management, watermarking, application and code obfuscation, key obfuscation, multi-factor authentication, content monitoring, credential monitoring, and takedown services. The industry's anti-piracy component is growing, and rapidly so. These services intrinsically address the OTT medium's myriad vulnerabilities, and sate industry demand for solutions that identify, and pro-actively nullify, illicit redistribution channels.

This dichotomy – encryption; anti-piracy – shapes and largely defines our subjective, reasoned appraisal of vendors' portfolios and their strategies. A vendor who invests in anti-piracy services is positioned to succeed, and bears the hallmark of an innovator. A vendor who remains excessively reliant on encryption-based solutions is not, and does not.

There does exist a third way – a wrinkle in what is otherwise a binary characterization of market opportunity. The pay TV industry is curtailing its reliance on broadcast devices, and across many markets, is procuring and deploying managed IP devices. These devices can only be secured via IP-enabled or *connected* CA.

We do not believe, however, that connected CA technology – and its possession – ensures *long term* market success. The time window that defines the pay TV industry's managed-IP transition is narrow. The connected CA opportunity – albeit sizeable in the present – is therefore limited and impermanent.

Top takeaways

The content security segment comprises a long tail of vendors whose businesses, reach, and strategies are highly circumscribed. We have chosen to profile eight vendors whose businesses are unambiguously large, whose ambitions are unambiguously global, and whose R&D precipitates the creation of novel solutions and services.

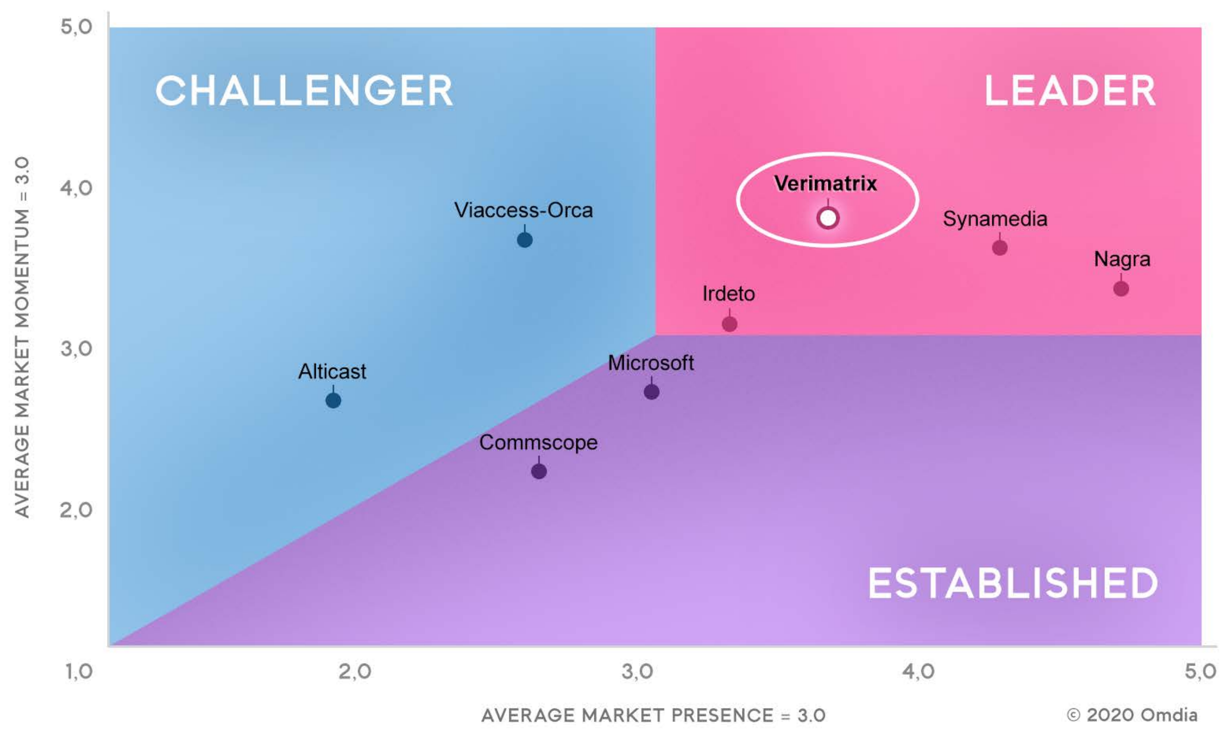
Our eight vendors – whose revenues, collectively, account for 85% of the security market's aggregate value – are: Alticast, Commscope, Irdeto, Microsoft, Nagra, Synamedia, Verimatrix, Viaccess-Orca.

Our scoring system – described in more detail in subsequent sections – assigns each vendor two scores. These scores are constructed as composite indices, and determine, in turn, whether a given vendor bears the moniker of a Leader, a Challenger or an Established player. Our 2020 market taxonomy is as follows:

- **Leaders:** Irdeto, Nagra, Synamedia, Verimatrix
- **Established:** Commscope, Microsoft
- **Challengers:** Alticast, Viaccess-Orca

Leadership landscape

Figure 1: Content security landscape and market leadership



Source: Omdia

This excerpt profiles Verimatrix only—contact Omdia to obtain the full report.

Scoring system

This scorecard evaluates vendors and technology suppliers in two fashions: on the basis of objective criteria; on the basis of subjective strategy appraisal. In order to evaluate vendors in this manner – and in order to position them, visually, within a competitive landscape – we have conceived a scoring system that achieves three objectives. One, our scoring system permits us to assess and compare vendors dispassionately. Two, our scoring system permits us to asses and compare vendors fairly. Three, our scoring system permits us to asses and compare vendors consistently.

The core scoring methodology – discussed in detail in the Appendix – comprises two dimensions, or indices, that are constructed as follows:

- **Market Presence:** statically defines a vendor's current market positioning. We consider vendors' revenue market share; vendors' subscription footprint; vendors' solution breadth; the geographic breadth of a vendor's business; the platform breadth of a vendor's business – with respect to the cable, IPTV, satellite (DTH), terrestrial (DTT) and OTT distribution platforms
- **Market Momentum:** dynamically defines a vendor's direction of change. We consider year-on-year changes in vendors' revenue market share; the modernity and ambitiousness of vendors' strategies; the composition of vendors' revenues; the extent to which a vendor's revenues derive increasingly from the sale of anti-piracy services such as: watermarking; redistribution monitoring; takedown services; code tampering detection; code obfuscation; password sharing detection

More intuitively, the *Presence* and *Momentum* scores capture what we believe to be important, innate properties of vendors' businesses.

The *Presence* index places outsize weight on the breadth and sophistication of a vendor's portfolio. The index serves, in other words, as a measure of vendors' ability to differentiate.

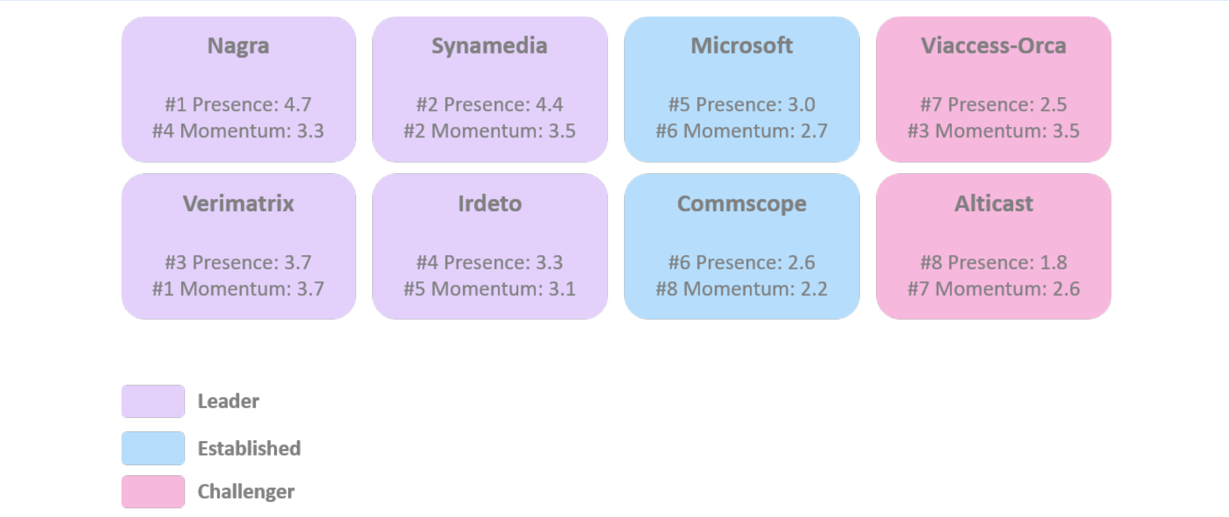
The *Momentum* index places outsize weight on the share of a vendor's revenue that derives from anti-piracy services. The index serves, in other words, as a measure of vendors' ability to translate their intellectual property into economic reward, and long-term competitive vitality.

Understanding the landscape, and its monikers

Market Presence and *Market Momentum* scores determine whether a vendor places into the *Leader*, *Established,* or *Challenger* category. Scores range between – and can in principle be equal to – a minimum of 1.0, and a maximum of 5.0; each dimension's arithmetic mean is 3.0. A few rules of thumb define the *Leader, Established* and *Challenger* monikers.

- **Leaders** score highly across all of our evaluative criteria. These vendors typically control a large share of the market's value, and have little trouble differentiating competitively. Market leadership is often correlated with market momentum. *Leaders* are likely to cement and build upon their leadership positions
- **Established players** preside over large footprints, often control a sizeable share of the market's value, and possess products that – at least historically – have achieved widescale adoption. Relative to the market's *Leaders*, these vendors are less prepared to partake in, and indeed shape, the next wave of industry change
- **Challengers** do not control a large share of the market's value, and possess footprints that cannot rival *Leaders'* or *Established players'* deployment footprints. By the same token, *Challengers* are typically nimble, enjoy positive momentum, and are well positioned to navigate future industry change

Figure 2: Content security leadership scores



Source: Omdia

Market coverage and segmentation

We have chosen to focus on six technology segments that exhibit two essential qualities: these segments attract the overwhelming majority of vendors' security R&D; more importantly, these segments reflect the attributes and features that buyers – as evidenced by the discussions we have conducted with them – value most.

Collectively, these six segments generated USD 1.45Bn during calendar year 2019. As per our most recent *Video UX Market Tracker – 2019* report, we anticipate that the security segment in the aggregate will exhibit a CAGR of -1.3% through 2023. The six segments, and their sub-elements, are:

Encryption: managed device security and CA

- CI+, smartcard, and cardless compatibility
- On-prem and cloud, SaaS architecture support
- Chipset, SoC and TEE integrations
- Root-of-trust compliance
- Movielabs ECP compliance
- Cartesian certification
- Single backend vs. backend silos

Encryption: Unmanaged device security and DRM

- iOS, Android, WebOS, Tizen, Win, OS X platform compatibility
- Max license requests per second
- Rental, subscription, PPV, aVoD, EST, DTO support
- Live and VoD support
- Support for in-home restreaming (trusted domain and clients)
- Extensibility: porting kit and SDK availability
- Secure video player offering
- On-prem, cloud (self-managed), cloud (fully managed) architecture support
- Cloud interoperability: Azure, AWS, own (private)
- Hardware and TEE-backed security
- Software security
- Audio-track and video-track key separation
- Key separation by video resolution
- License persistence and acquisition speed

Anti-piracy: Multi-DRM management

- Integrated rights management
- Integrated key and certificate management
- Integrated concurrent stream management
- Integrated blackout and geo restriction management

Anti-piracy: Watermarking

- Robustness: compression, recording, camcording, re-streaming, collision, geometric manipulation, D-to-A conversion
- Secure video player dependence vs. independence
- Client-side insertion
- Server-side insertion
- Blind detection
- Value chain compatibility: B2C; B2B; Digital Cinema

Anti-piracy: Monitoring

- Automated detection
- Human detection
- Human team size
- Revocation capability: DMCA; real-time
- Real-time revocation: network and distribution channel footprint
- Evidence gathering
- Support, advisory, and consultative services

Anti-piracy: Ancillary services and solutions

- TV Everywhere single sign on support, authentication
- Application and codebase shielding
- Whitebox and key obfuscation
- Tamper detection
- Multi-factor and passwordless authentication
- Credential sharing detection

In turn, we have chosen to profile eight vendors whose businesses are large, whose ambitions are global, and whose R&D shape the industry's present and future.

The absence of two vendors – Huawei; ZTE – may strike as particularly conspicuous. Both firms are active in the content security industry, and both possess demonstrably large footprints. The firms' footprints are also demonstrably territorial. Indeed, neither Huawei nor ZTE has achieved Movielabs compliance, and neither firm's security products are deployed beyond the PRC's borders. In this regard, Huawei and ZTE fail to meet our most basic inclusion criterion: a desire and an ability to compete globally.

Vendor profile: Verimatrix

Core Positioning

Verimatrix is the content security segment's unambiguous Momentum leader. Relative to its industry peers, the firm has transformed – with unmatched rapidity – a business centered around passive encryption into a business anchored to manifold, strong positions in encryption, watermarking, code obfuscation, multi-factor authentication, and HDCP security.

The speed with which Verimatrix has diversified its security portfolio, as well as the composition of its security revenues, is not incidental. The 2019 combination of Inside Secure and Verimatrix – followed by the complete jettisoning of the Inside Secure brand – instantaneously brought together two firms with complementary product, service, buyer, and strategic foci.

Subsequent to the combination, the new entity has pooled its intellectual property to develop new products for – and pursue opportunity across – telco, digital media, and device OEM segments. The result of this focus and aggressivity is a nimble firm whose release cadence, desire to innovate, and responsiveness to market change challenges – and indeed encourages – the security segment's co-Leaders to follow suit.

Market Presence and Market Momentum: Solutions, Breadth, and Strategy

Market Presence

As is common within the industry's Leadership segment, Verimatrix's solution set spans the vast majority of the sub-elements that define our six, content security market pillars. The firm presides over a TEE and hardware RoT-backed proprietary DRM solution; a capable multi-DRM and integrated rights management platform; a cardless CA system that can be implemented in the cloud; a robust client-and-server-side watermarking offering.

Arguably – and relative to its Nagra and Synamedia next-of-kin – the only arrow missing from Verimatrix's quiver is a monitoring-and-tracking service. While the firm does retain the ability to detect and identify illicit rebroadcast, Verimatrix's monitoring proposition cannot rival the sheer scale and sophistication of its rivals' competitive offerings.

Given this lacuna – and in light of the company's 5% market share – what explains Verimatrix's unassailable market Presence? Four elements distinguish the firm's security portfolio, lend unique brawn to it, and generate outsize ballast.

One, Verimatrix's app and code protection solution has no equal in the market. Industry-leading encryption platforms typically offer a whitebox component which hardens, encrypts, and obfuscates cryptographic keys. In addition to offering a whitebox, Verimatrix's code protection solution secures the video application itself. Conceived as a SaaS implementation, developers need simply upload a consumer-ready app to the Verimatrix cloud. In return, developers receive an application whose codebase is obfuscated, and which can self-monitor. Attempts to modify, tamper with, or debug code are reported, and precipitate device revocation. The ethos underlying the code protection offering is as persuasive as it is powerful: content not merely to encrypt the video and its keys, Verimatrix wishes to secure the figurative, digital living-room within which browsing, discovery, and consumption take place.

Two, we believe Verimatrix's two-factor, multi-factor, and TVE authentication platform to be a technology application that the firm's peers have largely overlooked. In today's market, the necessity of balancing video security against ease-of-accessibility is a self-evident. Verimatrix's authentication service achieves this across three dimensions: the solution is password-less, and therefore resists the charade of password recall, entry, and occasional reset; the solution – its 2+ factors be thanked – is very secure; the solution supports single-sign-on, and by extension, frictionless navigation across and between multiple TVE services.

Three, within its market segment, Verimatrix remains one of the few firms to continue to develop HDCP and DTCP software stacks. The firm's co-Leaders all possess sophisticated, market-leading CA and DRM solutions. In the context of unmanaged video delivery, however, many DRM solutions suffer from a drawback. No matter how securely a system can hold or define consumption rules, the system's ability to enforce those rules – mandating the disablement of an output port, for example – can be difficult. Verimatrix's HDCP and DTCP solution, coupled with the firm's wide-reaching OEM and CE manufacturer relationships, affords the company a vertically-integrated security solution that comprises not only rule definition, but rule enforcement as well.

Four, Verimatrix has a built a DRM ecosystem that protects not only final-stage B2C distribution, but B2B contribution as well. Verimatrix is not alone in this pursuit; fellow leader Nagra places considerable effort on securing upstream portions of the value chain. Where the two firms differ is in their approach. Nagra's solution revolves primarily around watermarking and tracking, while Verimatrix's solution is encryption based. Notional and strategic similarity notwithstanding, Verimatrix offers an elegant implementation backed by a simple principle: encrypt content once and only once, and via a cloud interface, permit owners, rights holders, and aggregators to exchange content and keys securely, and do so across both contribution and distribution networks.

Market Momentum

Verimatrix is our Momentum leader for a simple reason: the firm has been peerlessly quick to translate its raw, diversified technology capabilities into actualized, diversified sources of income.

The firm's co-Leaders all possess broad, uniquely strong solution sets. Relative to its co-Leaders however, Verimatrix has – to a much greater degree – weaned itself of dependence on its traditional CA business. The firm, consequently, is better positioned to weather the inexorable, perennial contraction of the CA market itself.

We believe that Verimatrix's content security revenues increased by roughly 3% between 2018 and 2019. Alongside Synamedia, Verimatrix is the only leader to have increased its composite security revenues, and market share, year-on-year. Its success in doing so is testament to the firm's focus on new product development, and in-market execution.

Final Word

Verimatrix's agility and resolve will serve the firm well over the remainder of our forecast period. The company is uniquely poised to navigate, and find opportunity in, the structural upheaval and re-alignment of the digital media and content ecosystem.

Appendix: Methodology

Scoring

The core scoring methodology comprises two dimensions, or indices, that are constructed as detailed below. Scores for each individual criterion are either awarded directly on, or converted to, a scale ranging from 1 to 5.

Market Presence: this composite index is calculated on the basis of five inputs

- **Market share:** this criterion measures the share of the video security market's revenues that an individual vendor controls.
- **Subscription footprint:** this criterion measures the share of the pay TV subscription base that an individual vendor's security technology is associated with, and deployed across.
- **Platform breadth:** this criterion measures the platform adaptability, and versality, of a vendor's security solution. We award vendors raw points on the basis of whether their solutions are actively deployed on the cable, DTH, IPTV, DTT and/or OTT platforms.
- **Geographic breadth:** this criterion measures the geographic diversification of a vendor's security business. We award vendors raw points on the basis of whether their solutions are actively deployed in the NAM, WEU, EEU, MEA, APAC and/or LATAM regions.
- **Solution breadth:** this criterion measures the diversification, sophistication, and breadth of a vendor's security business. We award vendors points based upon whether their solutions support the forty-four technology elements defined in the *Market Coverage* section.

Market Momentum: this composite index is calculated on the basis of two inputs

- **Year-on-year revenue change:** this metric rewards vendors not for the static, nominal size of their content security businesses, but for their demonstrable ability to grow.
- **Revenue composition and transformation:** this metric is a measure, ultimately, of market execution. As part of the *Presence* index, we reward vendors for the breadth of their portfolios, and in particular, for the possession of anti-piracy solutions.

Reports used

In addition to the information we gleaned through numerous vendor and buyer interviews, data and information that is used in the context of this *Scorecard* also derives from the below Omdia services and products:

- Video UX Technology Intelligence Service
- Video UX Technology Market Tracker

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