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Empowering PayTV Operators with Secure, Scalable Content Delivery.

Verimatrix's Proven Solution for Efficient and Robust Conditional Access in the Evolving Media Landscape.

Verimatrix VCAS™ DVB

PRODUCT BRIEF

VCAS ULTRA FOR DVB

In the rapidly evolving and highly competitive media landscape, the supremacy of content is undisputed. PayTV operators, grappling with the challenge of maximizing the value of their existing infrastructure while staying competitive, find a steadfast partner in the established Verimatrix VCAS Ultra for DVB solution. Recognized and approved by content owners, our solution is a beacon of efficiency and security in content delivery.

VCAS Ultra for DVB addresses the enduring need to serve large viewer populations via satellite, cable, and terrestrial broadcasting, especially in regions undergoing an analog-to-digital transition. This approach is critical for regions where one-way broadcasting may be the initial step towards a connected future.

Comprehensive Feature Set
Part of the On Premises VCAS Ultra multi-network platform, VCAS Ultra for DVB is a full-featured Conditional Access (CA) solution proven in over 100 deployments since 2003. It offers:

▶ **Flexibility in Deployment:**
Cardless clients, including state-of-the-art secure SOC implementations like trusted execution environments (TEE), Business-to-Consumer (B2C) and Busines-to-Business (B2B) configurations, original equipment manufacturers (OEM) and hosted solutions, and cost-effective, small form factor scalability for tier-1 Pay-TV operators with millions of subscribers.

▶ **Multi-Network Extensibility:**
As part of the broader VCAS Ultra multi-network platform, it extends to IPTV, DVB, and Internet TV/OTT, with options for hybrid DVB-OTT services, optional software- or hardware-based forensic watermarking, and single security authority integration.

The solution offers a full range of pay-TV functionality, including Pay-Per-Channel (PPC), Pay-Per-View (PPV), and Push Video on Demand (Push VOD), along with Digital Video Recording (DVR) capabilities.

Key Design and Technology Features Include:
- A Web services API for system control.
- Pre-integration with a broad range of set-top boxes (STB) offering various security levels.
- Fully standards-compliant DVB Simulcrypt support.
- Independent security audits by Merdan and Cartesian with excellent results.
- Compliance with the MovieLabs Specification for Enhanced Content Protection (ECP), Secure Media Pipeline (SMP) and High Definition Content Protection (HDCP 2.2) required for Ultra High Definition (UHD/4K) and other high-value content. Escalable to manage any number of devices.
- Support of Business-to-business models.

A Single Management Interface

A unique value-add by Verimatrix® is the common VCAS entitlement and management interface, providing a single point of integration with back-end systems like middleware and subscriber management/billing systems. VCAS enables cross-DRM domain management (i.e., VCAS Super Domains), allowing content entitled to a subscriber's domain to be automatically available to all domain devices, whether they are IPTV, DVB, Hybrid, or OTT clients.

With Verimatrix VCAS Ultra for DVB, operators are equipped not just to navigate the currents of the media industry but to lead the way, ensuring the protection and maximization of their content investment.

VCAS Ultra for DVB - Solution Overview

VCAS Ultra for DVB provides comprehensive key and content rights management for DVB services in one-way networks (Cable, Satellite, and Terrestrial) through several server components.
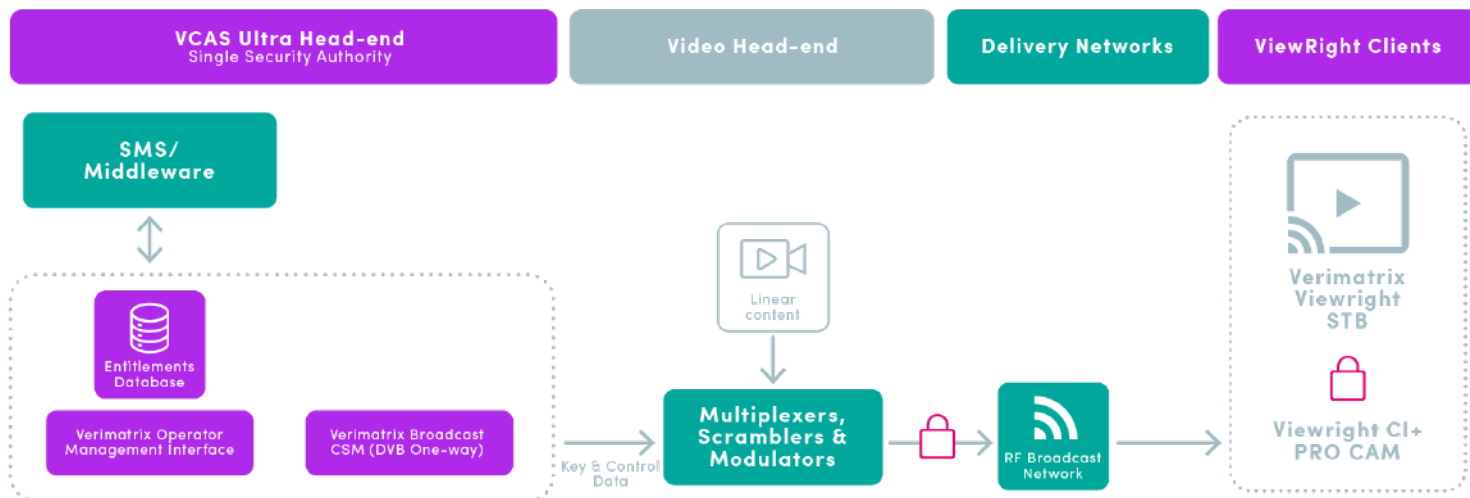
▶ **Operator Management Interface (OMI):**
This core administrative component integrates seamlessly with customer care, billing, and middleware systems. It features:
  • 'Push' integration with subscriber management systems (SMS)/middleware.
  • Common rights arbitration for parallel license delivery and subscriber domain management.

▶ **VCAS GUI:**
A user-friendly VCAS GUI for managing entitlements, content, devices, and domains.

	NETWORK CONTENT ID	CONTENT ID	NETWORK CONTENT TYPE	EVENTS	
☐	HBO_std_prime	HBO_std	DTV	⦿ View Events	⚙▾
☐	HBO_ultra_1_prime	HBO_ultra_1	DTV	⦿ View Events	⚙▾
☐	new_series	NCC_top_1	DTV	⦿ View Events	⚙▾
☐	prime_time_disc	cnbc_news	VOD	⦿ View Events	⚙▾
☐	Prime_time_content_1	discovery_content_1	DTV	⦿ View Events	⚙▾
☐	discovery_showcase	discovery_content_2	DTV	⦿ View Events	⚙▾
☐	discovery_bonus	discovery_content_3_Ultra	DTV	⦿ View Events	⚙▾
☐	discovery_prime_time_show	prime_time_show	VOD	⦿ View Events	⚙▾

DEVICES NETWORK CONTENT POLICIES

+ Create Network Content 🗑 Bulk Remove 🔍 Search

← First Previous Next

▶ **Broadcast Content Security Manager (BCSM):** Facilitates advanced Pay-TV business models within secure broadcast networks. Key features include:
  • Management of authentication, key distribution, and user control.
  • Entitlement Control Message (ECM) and Entitlement Management Message (EMM) generator.
  • DVB Simulcrypt implementation for MPEG-compliant MPTS encryption.

▶ **Verimatrix Encryption Engine:** A high-performance hardware device handling all cryptographic operations, safeguarding ciphers, control mechanisms, and operator keys.

▶ **ViewRight® (Ultra) STB for DVB:** Offers multi-level client security, ranging from software-based clients to cardless secure SOC implementations (e.g., TEE) depending the content requirements. This flexibility allows operators to align STB technology with their revenue potential.

▶ **Common Interface CAMs (CI Plus & Professional):** Provides options for single-stream or multi-stream DVB Cardless Common Interface modules suitable for both consumer and professional decoding applications.

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Supporting Multiple Pay-TV Functions in One-Way Networks

One-way networks offer an efficient means to broadcast major events without the escalated costs and latency often associated with two-way networks. VCAS Ultra for DVB supports a variety of business models to cater to diverse broadcasting needs:

- **Pay-Per-Channel (PPC):** Allows consumers to subscribe to individual video or audio channels.
- **Pay-Per-View (PPV):** Enables subscribers to purchase access to specific events of their choice. VCAS facilitates the definition, scheduling, entitlement, and de-entitlement of these events.
- **Pay-Per-Time (PPT):** Offers subscribers the option to purchase fixed time blocks (minutes or hours) for content access, with features to manage event scheduling and entitlements.
- **On-Screen Messages:** This feature enables the sending of text messages to individual customers, groups, or the entire customer base, ideal for customer relations, promotional activities and alerts.
- **Secure Messaging:** Allows the transmission of commands, user data, and other messages directly to the STB middleware.
- **Parental Control:** Provides a subscriber-controlled mechanism for content filtering that is immune to STB manipulations, independent of STB middleware security.
- **Digital Video Recorder (DVR):** Offers secure DVR capabilities, including re-encryption of content. Supports both internal and external HDDs, along with extensive copy control settings such as retention limits and no-recording flags/settings.

- **Flexible Output Control and Copy Protection:** Ensures content security through comprehensive output control and copy protection mechanisms.
- **Integration with Customer Care & Billing Systems (CC&B or Subscriber Management Systems):** Seamlessly achieved through an open OMI SMS API.
- **Device Blacklisting:** Ensures that problematic devices are prevented from accessing video services, enhancing security and service integrity.
- **Region Segmentation for Video and Messaging:** Allows for the specification of content accessibility and availability to subscribers based on their geographical location. This regional segmentation ensures tailored content delivery aligning with regional preferences or restrictions.
- **Reduced Bandwidth Usage for Large Networks:** Network segmentation capabilities significantly lower the bandwidth needed to distribute entitlements and keys to devices in large networks. This reduction in bandwidth usage enhances network efficiency and performance.
- **OSD Fingerprinting:** Advanced options for controlling background, foreground, size, color, and position of on-screen displays.
- **Watermarking (Optional):** Integrated with Verimatrix watermarking solution to protect the entire path of content consumption across multiple platforms.

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ViewRight® STB for DVB

ViewRight® (Ultra) STB for DVB is a robust package of portable embedded code that implements the VCAS security functions within each STB in a pay-TV system. The ViewRight® STB code has been designed to require only a minimum of resources from the STB hardware and run- time environment and use a standardized set of simple interfaces to any STB control software and/or middleware.

ViewRight® STB is already integrated with the vast majority of SoC families including 4K and UHD chipsets. The solution has been architected to be highly portable to different hardware architectures and run-time environments. The embedded, secure system-on-chip (SOC) and TEE based clients provide hardware-level security without card logistics, including professional CI CAMs and consumer CI+ CAMs.

The ViewRight® STB support the following security features:
- **Hardware Root of Trust:** Formal SoC Certification for Ultra Security Content.
- **Secure Video Path Support:** Verified at the SoC platform level using TEE.
- **HDCP 2.2 Protection and Signaling:** Controlled asset by asset from head-end.
- **Third-Party Audits:** Passed Riscure hardware audits: including side channel attack and TEE verification. Farncombe VCAS Ultra system audit passed.
- **VideoMark® Forensic Watermarking:** Optional component that provides hardware based watermarking integrated at the SoC level.

ViewRight® CI Professional for DVB

For Business-to-Business (B2B) video distribution operations, Verimatrix offers a high-performance DVB CA Module (CAM) based on the DVB Common Interface (DVB-CI) standard. Features:
- Descrambling of 1 - 6 MPEG-2 / MPEG4 video services simultaneously contained in MPEG-2 Transport Streams.
- Transport Stream processing bandwidth: Up to 96 Mbps.
- Up to 64 configurable PID filters to support TS packet filtering or section data.
- Supports over-the-air (OTA) software upgrade.
- Secure Loader for highly secure and efficient software upgrade.

ViewRight® CI+ for DVB

The ViewRight® CI+ CAM is a low-cost consumer device based on the SMiT SM1660 platform, offering an embedded cardless ViewRight® client. It implements support for CI+ v1.2 and newer. The CI+ solution supports copy protection and output control according to CI+ specification.

Leverage the Verimatrix Partner Ecosystem

Verimatrix thrives on a robust network of strategic alliances with leading pay-TV technology providers and Consumer Electronics (CE) manufacturers. These partnerships focus on ensuring seamless integration, operational ease, and enhanced value for our customers. Our ecosystem encompasses a wide range of industry specialists, from content aggregation and system integration to VOD servers, middleware systems, and hardware manufacturers like set-top boxes and smart devices. This broad and dynamic network allows Verimatrix to offer innovative, pre-integrated solutions, aligning with both current and future market demands.

Conditional Access and Trust

Verimatrix VCAS offers stakeholders in the new multi-network service paradigm several constants: greater trust between rights owners and video service providers or distribution networks; and high-value content on whatever screens and networks viewers may chose. Visit www.verimatrix.com/products/vcas.

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About Verimatrix

Verimatrix (Euronext Paris: VMX) helps power the modern connected world with security made for people. We protect digital content, applications, and devices with intuitive, people-centered and frictionless security. Leading brands turn to Verimatrix to secure everything from premium movies and live streaming sports, to sensitive financial and healthcare data, to mission-critical mobile applications. We enable the trusted connections our customers depend on to deliver compelling content and experiences to millions of consumers around the world. Verimatrix helps partners get to market faster, scale easily, protect valuable revenue streams, and win new business. To learn more, visit www.verimatrix.com.

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