

Multi-Level Content Security for DVB Set-top Boxes

Verimatrix ViewRight STB for DVB (Digital Video Broadcasting) is a robust package of portable embedded code that implements the Verimatrix Video Content Authority System (VCAS™) security functions within each set-top box (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.

In contrast to the legacy approach with its singular focus on hardware-based security, Verimatrix offers multi-level client security that can be mixed in the same broadcast network to match STBs with ARPU (Average Revenue per User) potential:

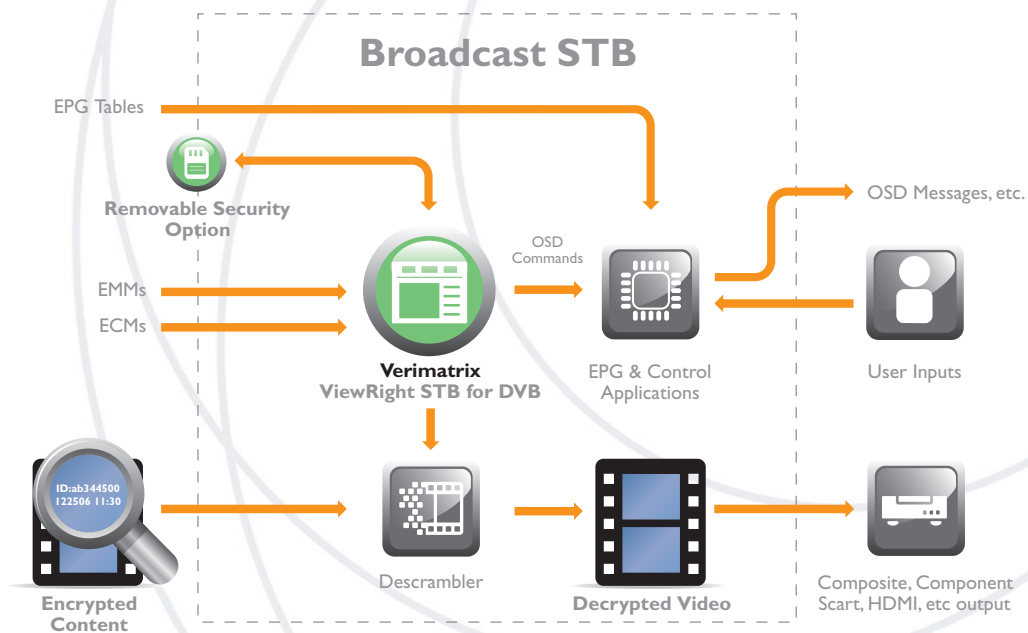
- Software clients for lower ARPU, one-way broadcast segments.
- Secure system-on-chip (SoC) clients for hardware-level security without card logistics.
- Smart card-based security for operators preferring removable security, including a DVB-CI (Common Interface) module.

The software-based client offers best-of-breed content and revenue protection in a hardened implementation that incorporates signing, multiple levels of integrity checking, obfuscation and other advanced security features such as control word and card sharing protection mechanisms.

The secure SoC client utilizes the advanced security features of modern and “Verimatrix-personalized” SoCs, such as secure boot, control word obfuscation, secure code execution, protected memory and encrypted data paths securing the video pipeline.

The smart card implementation utilizes a state-of-the-art chip together with an advanced client design incorporating passive, active and adaptive security features. This makes the client an elusive and moving target for potential hackers.

STBs equipped with software-based clients can be upgraded to smart card based security, if equipped with a card reader, by simply inserting the card. This method can be used, for example, when upgrading a subscriber to premium content or in response to a suspected security breach.



Features

- | | |
|---|--|
| <ul style="list-style-type: none"> • Basics • STB chipsets • Smart card chip • DVB-CI Module • STBs • Memory footprint, SW-based client • Supported scrambling algorithms • Broadcast support | <p>EMM, ECM, OSD Messaging, (I)PPV,VOD (non-IP based)</p> <p>ST, Broadcom, Conexant, NXP, Sigma, etc.</p> <p>NXP (military grade)</p> <p>Available from preferred vendor, others available after integration</p> <p>Variety of DVB-C/S/S2/T/T2 and MMDS pre-integrated models, some ready for hybrid upgrade to IP networks.</p> <p>500-750KB (depends on platform and security level)</p> <p>DVB-CSA; also AES if supported by STB</p> <p>MPEG-2 Multi-Program Transport Streams (MPTS)</p> |
|---|--|

VCASTM

The Verimatrix Video Content Authority System (VCAS) offers an advanced suite of technologies that address content security challenges for the networks of today, and those of the future.

Supporting IPTV, traditional DVB broadcast and mobile networks, VCAS fully exploits the power and elegance of modern two-way IP infrastructure to provide a superior level of content security and revenue protection on STBs, PC and a growing range of other client devices. Even in DVB broadcast networks, cost and renewability requirements demand that the system architecture match evolving standards. Cryptographic and secure electronic transaction technologies proven in e-commerce applications, together with the increasingly sophisticated features of client device chipsets, enable VCAS to offer a more renewable and flexible implementation of content protection than that of traditional CA systems.

VCAS incorporates pioneering features that provide the best security perimeter of any content protection system, enabling complete transparency for legitimate content consumption while significantly raising the level of protection against content piracy.

As the global leader in software-based security, VCAS offers flexibility in choice of client devices, broad middleware interoperability and proven scalability.

Features

- Video encoding MPEG-2, MPEG-4/H.264, VC1, DivX
- Video encapsulation MPEG-2 Transport Stream
- Content encryption 128-bit AES, RC4, DVB-CSA
- Digital certificates X.509 compliant, 1024-bit PKI signature hierarchy
- Network management integration SNMP v1, v2c, v3
- VOD content ingestion Manual or automated with flexible workflow
- Head-end integration XML-RPC, SOAP, DVB-Simulcrypt
- Hierarchical distribution Enables multi-level content delivery channels without intermediate re-encryption
- Client flexibility Supporting very wide range of broadcast and hybrid STBs, plus PC and other devices
- Clone detection Revenue protection through patent-pending monitoring and response techniques
- Watermarking Robust tracing of illegitimate content copies through patented VideoMark user specific watermarking implementations

Verimatrix—Securing Content, Enhancing Entertainment

Verimatrix sets the standard for software-based content security and revenue enhancement technologies in pay-TV networks, with a growing global customer base of service providers. VCAS and ViewRight technologies offer an independently-audited security solution for pay-TV operators of all types, and the company is consistently ranked as a global leader in the content protection marketplace.

The company's 3-Dimensional Content Security approach enables secure delivery of content to multiple devices across multiple networks using multiple layers of content protection techniques. Maintaining close relationships with major studios, broadcasters, industry organizations and our broad partner ecosystem enables the company to address the challenges facing pay-TV networks of today, and those of tomorrow. For more information, please visit www.verimatrix.com.



6825 Flanders Drive • San Diego, CA 92121 USA
Main: +1.858.677.7800 • Fax +1.858.677.7804
email: info@verimatrix.com