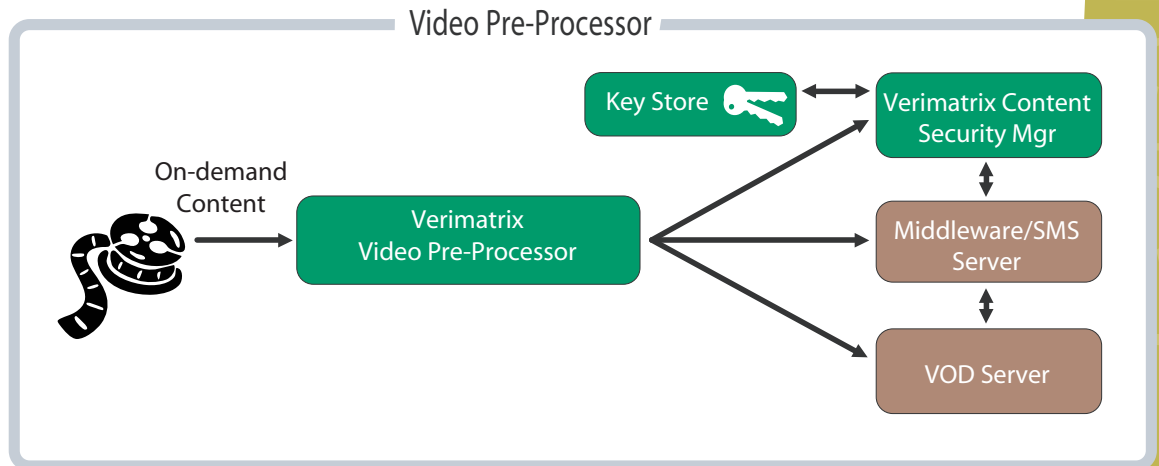


## Robust, Flexible Offline Encryption of Video Assets

The Verimatrix Video Pre-Processor (VPP) component of the Video Content Authority System (VCAS) provides an integrated and highly flexible mechanism to generate encrypted content files in preparation for VOD delivery. VPP supports automation of the content ingestion process from receipt of intermediate files and meta-data, through optional watermark insertion to provisioning the VOD server and subscriber entitlement system. The integration of VPP provides an efficient and robust operational front-end for a wide range of added-value pay-TV services.

Working with the Verimatrix Content Security Manager for key generation, VPP encrypts video assets using proven AES or RC4 algorithms, which can be applied at an operator specific percentage level. Verimatrix has architected a fully MPEG-aware video encryption process to enable preservation of key header fields while supporting the widest range of indexing utilities that facilitate trick play functions. The use of MPEG transport stream and DVB standard ECM formats enable secure insertion of a flexible range of control data within each stream, including copy control, watermarking management, service class and content ratings ("parental control") data.



## Features

Platform OS	Solaris 10, Linux (RHE v4/5)
GUI	Java based
Stream format	IP encapsulated MPEG-2 TS
Content encryption	128bit AES, 128bit RC4
Key mutation rate	Operator selectable per stream, up to 2/sec
Stream encryption	Operator selectable from 1-100%
Trick-play/DVR support	I-frame and header detection/protection ready for trick play stream indexers
Automation capability	SOAP API support for workflow management
Scalability/Redundancy	Clustering and auto-failover support

VPP employs encryption and key management protocols which are symmetrical to those used by the RTES and MultiCAS broadcast encryption components of VCAS. This approach improves the flexibility of system configurations that can be deployed and offers near seamless support for PVR and nPVR functions.



## VCAS

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. Traditional conditional access systems are architected around one-way communications, while Verimatrix has designed its solutions from the ground up using the power and elegance of modern two-way IP infrastructure. Cryptographic and e-commerce technologies proven on the Internet enable VCAS to offer a more sophisticated level of content protection than traditional smartcard-based 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.

VCAS security has received very favorable results in independent audits and is the approved security choice in pay-TV operator deployments on a worldwide basis. As the global leader in software-based security, VCAS offers flexibility in choice of client devices, broad middleware interoperability and proven scalability.

## Features

Platform OS	Solaris 10, Linux (RHE v4/5)
Video codecs	MPEG-2, H.264, VC1, DivX
Video encapsulation	MPEG-2 TS
Encryption	128bit AES, 128bit RC4, 1024 bit PKI (2048, 4096 optional), DVB-CSA
Digital certificates	X.509 compliant
Network management	SNMP
Database support	Oracle (9i, 10g)
Content ingestion	Manual or automatic
Head-end integration	XML-RPC, SOAP, DVB-Simulcrypt
Clone detection	Patent-pending GeoAuthentication & QuantumID options

## Verimatrix—Securing Content, Enhancing Entertainment

Verimatrix sets the standard for software-based content security and revenue enhancement technologies in pay-TV networks, with a global customer base of telecommunications providers. VCAS offers a suite of next-generation technologies that protect content and enhance revenue streams, while combating digital piracy wherever it occurs within the distribution chain. VCAS has been consistently highly rated in independent audits with zero security exposures.

The company's content security experts maintain close relationships with the major studios and broadcasters to help address the challenges facing the pay-TV networks of today, and those of tomorrow. Verimatrix's customers benefit with most favorable access to premium content, enabling the richest, most versatile viewing experience for their digital video subscribers. For more information, please visit [www.verimatrix.com](http://www.verimatrix.com)

## Verimatrix Location and Contact Information

Verimatrix, Inc. • 6825 Flanders Drive • San Diego, CA 92121

USAGeneral +1.858.677.7800 • Fax +1.858.677.7804

internet: [www.verimatrix.com](http://www.verimatrix.com) • email: [info@verimatrix.com](mailto:info@verimatrix.com)