
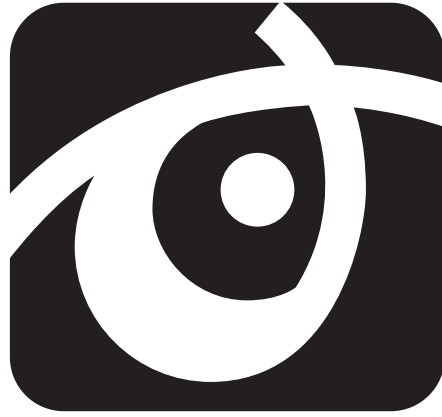


CAS

 English



CryptoGuard

– Protect your content –

CRYPTO GUARD CAS



Next Generation Content Protection - CryptoGuard CAS

Content piracy may cause serious damage to a Pay TV operator if it should happen. If subscribers are able to obtain content without paying, the Pay TV operator will suffer hard. Content providers will also be affected, and if the Pay TV operator is not able to stop piracy, content providers may terminate content delivery. The result could be serious for the Pay TV operator.

Choosing the right Conditional Access Solution (CAS) is essential to ensure that only paying subscribers are getting access to the content and to be able to get premium content from content providers. CryptoGuard CAS utilizes advanced security and is constantly improved with the latest innovations in encryption, software obfuscation and hardening security. CryptoGuard CAS is security audited by Farncombe with a good result, and CryptoGuard are actively fighting piracy through the Audiovisual - Anti Piracy Alliance (AAPA).

CryptoGuard CAS is ideal for any size of operator and can scale to millions of subscribers. It supports any business model and facilitates DRM and OTT for anywhere, -any device viewing experience.

Next Generation Advanced Security

CryptoGuard CAS is utilizing security modules on the head end side, with the most secure hardware. On the STB and CAM side, CryptoGuard CAS has always used secure pairing with link protection to avoid control word sharing. CryptoGuard CAS is utilizing advanced security embedded in DVB chipsets from the major chipset vendors for both Cardless and Smartcard based solutions. In addition to storing secrets in highly secure chipsets, software obfuscation and the strongest encryption technology is used to avoid device cloning, control word sharing or any other piracy situations.

CryptoGuard Smartcards always use the most secure military grade chips available on the market. These chips are tested by accredited independent security laboratories with the highest security results.

Proven High Availability and Scalability

CryptoGuard is using MariaDB (earlier MySQL) to store all information and configuration. MariaDB is a well-known and well-proven open source enterprise database used by many large companies all over the world.

There is one master database in the CryptoGuard CAS Core Server. From the master database, data is replicated out to smaller MariaDB databases in CryptoGuard Sub Servers. Sub servers can be EMM Injectors, ECM Generators, DRM Key servers etc. With this concept, it is possible to add several CryptoGuard Sub Servers to achieve the needed performance. The Pay TV Operator can for example have two or more ECM Generators with automatic fail-over from one ECM Generator to the other.



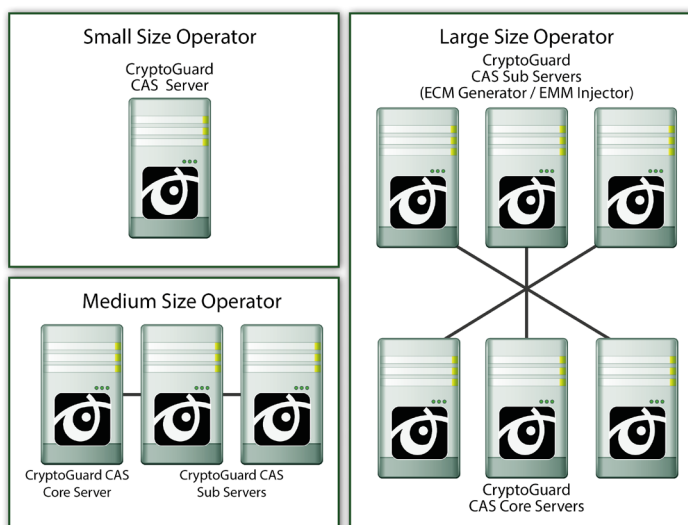
The only database that needs to be backed up is the master database in the CryptoGuard CAS Core Server. The master database in the CryptoGuard CAS Core Server can be established on two or more servers to enable any level of redundancy. By using a Galera Cluster, a fully automatic fail-over clustering system can be established where database servers can be automatic included and excluded. By adding more CryptoGuard CAS Core Servers and CryptoGuard Sub Servers CryptoGuard CAS can scale up to millions of subscribers.

CryptoGuard CAS - Affordable for Any Size of Operator

CryptoGuard CAS is highly affordable for any size of operators. On a very small operator supporting a few thousand subscribers, CryptoGuard CAS can run all applications on one single server. CryptoGuard CAS can run inside the multiplexer, on a separate server, or even on a Raspberry Pi.

For a medium size operator supporting some hundred of thousand subscribers, the Pay TV Operator can have separate servers for CryptoGuard CAS Core and CryptoGuard Sub Server. This configuration not only supports a larger number of subscribers, but also provides redundancy for the CryptoGuard Sub Server.

For larger Pay TV Operators, from half a million to millions of subscribers, several servers are needed. This also makes it possible to establish a full redundancy for all parts of the system.



Multi Network and Multi Operator Support

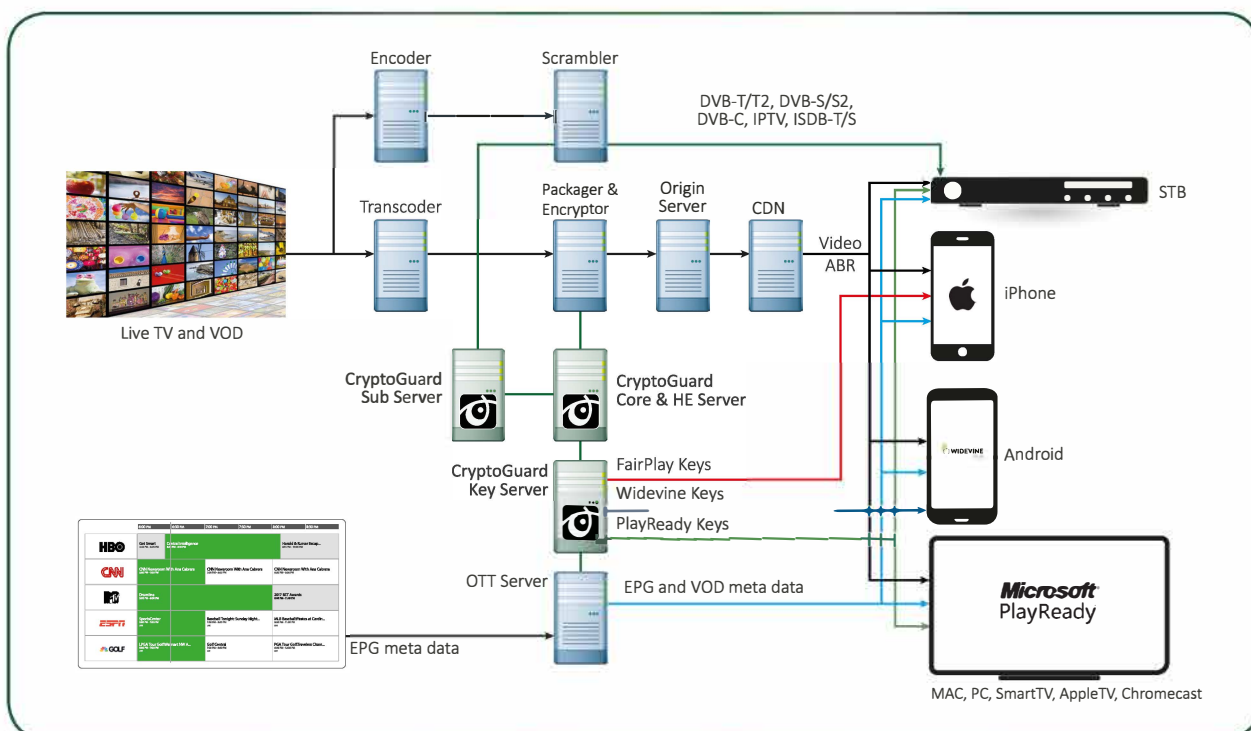
CryptoGuard CAS can be configured to support any topology of network. One central CryptoGuard CAS Core Server can control many ECM Generators and EMM Injectors that are placed in different locations. Thereby, cable networks in different locations or different satellite uplinks can be centrally operated as one system from one CryptoGuard CAS Core Server.

CryptoGuard CAS is one of the most flexible CAS hosting systems in the market today. One CryptoGuard CAS Server can be partitioned so that a large number of independent Pay TV operators can be operated from one central system. Each operator has full freedom to configure content, packages and subscribers. Each Pay TV operator can have an IP connection from their scrambler to the hosting operator or they can have CryptoGuard Sub Servers at their premises. By selecting a hosted solution, smaller Pay TV Operators will be able to operate their own network without the need of skilled technical employees.

CryptoGuard CAS - A Foundation for Any-where/Any-time Viewing

CryptoGuard CAS can be extended with the CryptoGuard DRM solution where the Pay TV operator can manage content and subscribers from one system. CryptoGuard DRM supports Fairplay DRM embedded in all Apple devices, Widevine embedded in all Android devices and PlayReady embedded in all Microsoft devices. STB vendors usually embed PlayReady or Widevine. For more information, please read the CryptoGuard DRM brochure.

CryptoGuard CAS can also be extended with the affordable CryptoGuard CryptoLITE Solution. CryptoLITE is a complete end-to-end solution containing OTT Server, Transcoder, Origin Server, CDN Servers and apps for iOS and Android. For more information, please see the CryptoGuard CryptoLITE brochure.



CryptoGuard CAS - Best in Class for Contribution

CryptoGuard offers professional CAMs that support 25 channels in one CAM. This dramatically reduces the cost when establishing contribution networks. Professional CAMs are available in 4, 8, 16 and 25 channel versions.

CONTACT

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Number of supported subscribers	Any size from a few hundred to millions (Unlimited)
Supported Business Models	Subscription, Pay Per View and Events
Supported Transmission	DVB-C, DVB-T/T2, DVB-S/S2, IPTV, ISDB-T/S
Multi Network Support	One CryptoGuard CAS Server can support many sub servers
Multi Operator Support	One CryptoGuard CAS Server can serve many operators
Simulcrypt version	ETSI TS 103 197 V 1.2.1 and V 1.3.1 (Simulcrypt 2 and 3)
Subscriber managing system, SMS	A SMS to control subscribers in the CryptoGuard CAS system is included
API for 3rd party billing / SMS	Yes
Cardless and Smart Card control	Customer, network owner, program supplier
Subscription sales	Customer service, subscriber log-in with PIN code, prepaid activation codes, retailer login
PPV and VOD	Yes
DRM	Yes, supported through CryptoGuard DRM
Multi DRM support	Microsoft PlayReady, Widevine MPEG Dash and Apple Fairplay supported.
Activation technology	Tags and program numbers. Last expiry date, positive control and negative control.
Database and redundancy	MariaDB (Earlier MySQL) supports master slave and Galera cluster
Administrator privileges	System access can be defined per user and customized roles can be created
PSI/SI-play out	NIT, SDT, SDT actual/other, CAT, TDT, TOT, Private Sections
Supported Servers	Intel 64 bit, 8G Ram and 400G of disk Various Head Ends and Raspberry Pi for small nets
CAM Support	Consumer CAMS for both CI and CI+ Professional CAMS for 4, 8, 16 or 25 channels
Pairing	Yes, on both Standard and Advanced Security Controlled at channel level
Control word sharing protection	Yes, on both Standard and Advanced Security
Number of channels/ channel package/MUX	Unlimited, defined on order. Standard is 512 tags. Several channels can have the same tag.
Supported STBs	A separate list of tested STBs is available
Over the Air upgrade of STBs	Yes, supported for both STB middleware and the CryptoGuard Cardless CAS client
Update/new releases	All operators paying for SLA will continuously get server upgrades
Text messages to users	Messages up to 2048 characters
Fingerprinting	Group, individual, set position and moving position
Forced tuning	Yes
Reports	Standard and custom reports
Quick installation	Yes, through kick starter
OTT	Yes, CryptoLITE supports full end to end OTT solution