BETACRYPT 2 Conditional Access System

Betacrypt2 is one of the leading products in the market of Conditional Access Systems for Digital TV. It supports all Pay TV business models and functions by using the highest security standard.

- **Smart Card based** and **Smart Card free** solution or any combination.
- **Pay Per Channel / Pay Per View / Pay Per Time.**
- **Impulse Pay Per View** – either by return channel or by a return channel free solution.
- **Parental Control** – CAS based middleware independent solution.
- **Pairing** – any kind of pairing ("no pairing" to "full pairing").
- **Unified Data File Structure** – individual data can be stored on the Smart Card.
- **On Screen Messages** – messaging services to individual customers.
- **Father/Son** – CAS based pairing between one father and a couple of connected sons.
- **Chat** – visiting up to 16 chat rooms; interact by mobile phone or by internet.
- **Short Message Ordering System** – prepaid order by mobile phone or by internet.

// Architecture

As an architecture independent system Betacrypt2 works in all environments with or without using a return channel.

Environments:

Satellite, Cable, MMDS, Terrestrial, IP-Networks. The technology of Betacrypt2 combines most efficient access methods with highest available scalability and allows serving a few hundred up to millions of subscribers.

Betacrypt2 consists of a central head end device and the latest encryption technology based on high-security grade Smart Cards.

The connection between scrambler and Betacrypt2 headend utilizes TCP/IP lines following DVB Simulcrypt, so the scramblers can be located at different geographical locations.

The operator and content provider controls the Betacrypt2 environment by connecting a Customer Care and Billing System to the ASCII and TCP/IP based CC & B interface of the head end device.

The Betacrypt2 rock-solid Sun Solaris or IBM Red Hat Linux based software in combination with 1:1 hot system and hardware redundancy with automatic failover ensures 24/7 operation.

Virtually no operator interaction is necessary to run the system and monitoring is easy with Betacrypt2's status-at-a-glance user interface Betacue.

// Security Solutions

Verimatrix's unique concept of combining both Smart Card free and Smart Card based subscribers in one installation together with the ability to handle very large subscriber population while imposing only small hardware requirements ensures both, low entry-level investment and remaining highly flexible when operation grows or the need for advanced features arises.

// One or Two-Way Communication

Verimatrix supports one or two-way communication networks to combine efficiently the broadcasting technology with the feedback capabilities of two-way networks.

// Conditional Access Technology

After longterm experiences with Betacrypt1 the Betacrypt2 head end was developed from scratch focusing on security aspects and using dedicated secured encryption hardware in order not to reveal algorithms used.

No plain keys are stored anywhere in the system so security is not compromised even in case of hardware theft.

Used keys are changed on a regular basis and downloaded to the Smart Cards without interruption of service or black screen at the end consumer`s device.

The Betacrypt2 Smart Card features latest anti-piracy countermeasures both in hardware and in software including ECM/EMM envelope encryption or key ageing to prevent replay-attacks. It already includes standby algorithms that can be activated in case of compromise.

Already adapted to various DVB-compliant Set Top Boxes and head end equipment Betacrypt2 offers the widest range of flexibility in combination with the highest security.