EMBEDDED DRM

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Verimatrix HDCP and DTCP-based solutions secure content when typical CA and DRM cannot

Key features

- Protection in use cases beyond scope of DRM and CA systems

- Point-to-point protection using industry standards, HDCP and DTCP

- Fully flexible, easily implementable HDCP-based solutions for playback devices with support for high-definition and 4k/8k content

- DTCP-based security at compression level for high-definition and 4k/8k content

- Customized HDCP and DTCP software libraries and source code

- Support for integration and testing; maintenance services

- HDCP/DTCP toolkit used in CE, automotive and other industries

Premium content needs to be protected throughout the entire delivery chain, including download, streaming, storage and playback. Protection typically impacts common playback devices such as set-top-boxes, TV sets, personal computers, gaming consoles or mobile devices, like smartphones and tablets

Content protection and authentication mechanisms applied for these use cases are designed for either one-way or two-way communications. The Verimatrix VCAS solution provides state-of-the art security and protection for all of these applications. Yet not all playback devices are continuously connected to a license server or reachable through a one-way network for content authorization and entitlement.

Relevant Use Cases

There are several scenarios where content cannot be protected by typical DRM or CA systems. Such use cases include:

- Connections between CE devices: HDMI, DisplayPort, MHL, Miracast, IP or USB

- In-car/in-seat entertainment for auto and aviation applications

- Surveillance applications

- Internet of Things (IoT) deployments

- Event and conferencing technology

- Content transfer on internal data buses

For these applications, the industry has defined two point-to-point protection standards for guaranteed device interoperability: HDCP and DTCP.

High-bandwidth Digital Content Protection (HDCP)

HDCP is a content protection standard used by all playback devices that forward premium content to external displays or TV sets. This includes, but is not limited to Blu-ray players, set-top-boxes or PCs, whereas the majority of implementations are over HDMI connections. HDCP can also be implemented on other interfaces since it abstracts the transport layer: Miracast over Wi-Fi is one such example.

Verimatrix offers fully flexible HDCP and HDCP2 stacks that address these use cases and meet the content owner requirements even for 8K premium content. Dependent on bandwidth needed, Verimatrix can even provide fully software-based HDCP solutions that are easily implemented, avoid dependency on hardware (while being backward compatible with devices in the field) and reduce the bill of material for future devices.

Digital Transmission Content Protection (DTCP)

DTCP has been developed primarily for content protection on the compressed level. It allows for secure content storage and transfer through multiple physical interfaces, or on the internal data bus within a device between different content-processing components. DTCP also supports the handover of usage rules information from an upstream DRM/CA system, enabling a fully embedded secure video path from DRM/CA to standardized DTCP-based content protection for local storage or transfer. It also supports a fully secure handover to HDCP encryption for content playback.

There are currently two different DTCP security levels available:

- DTCP supports content protection for typical high-definition content owner requirements

- DTCP2 comes with advanced security profiles and is accepted by content owners for 4K and 8K content

Verimatrix contributed significantly to the standardization of DTCP security, making our solutions especially sought-after for DTCP software integrations.

Embedded Security Solutions and Markets

Given our deep knowledge and experience of content protection, Verimatrix offers a broad range of services regarding the implementation and integration of embedded security solutions based on HDCP and DTCP. These include customized software libraries for integrated or installable HDCP and DTCP applications, customized HDCP or DTCP source code for compiling directly into embedded operating systems, as well as integration, testing and maintenance.

Customers for the Verimatrix HDCP/DTCP Toolkit primarily include vendors in the CE and automotive industries, but the number of industries served is rapidly expanding as HDCP and DTCP standards continue to be adopted across new markets.

For further details on all of Verimatrix solutions, visit www.verimatrix.com

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