swisscom

Building a Secure Android-Based TV Service in Switzerland

verimatrix
DRIVING TRUST

SWISSCOM'S FOCUS ON SECURITY

#VerimatrixSuccess

A NEXT-GENERATION MULTI-SCREEN PAY-TV SERVICE EMPOWERED BY THE LEADING SECURITY SOLUTION

Swisscom provides a notable IPTV success story, serving as an incumbent telecom operator with more than 1.17 million TV subscribers that is now taking the lion's share of net television additions.

The company introduced IPTV in 2006 and in April 2014 unveiled its next-generation offering, Swisscom TV 2.0. This landmark deployment demonstrates a migration from Swisscom TV 1.0 to an integrated multi-network and multi-screen service platform based in part on Android, something that made it easy for Swisscom to work directly with its initial set-top box manufacturers and reduce costs and time-to-market.

Swisscom is one of the first digital TV operators anywhere to leverage Android for its first screen offering. The project illustrates how premium content can be secured in the Android environment, including for linear and live TV, which is protected by a cardless revenue security system with a close integration into the set-top box system-on-chip (SoC) and the Android RDK.

Customer:
Swisscom

Solution Deployed:
Verimatrix Video Content Authority System (VCAS™)
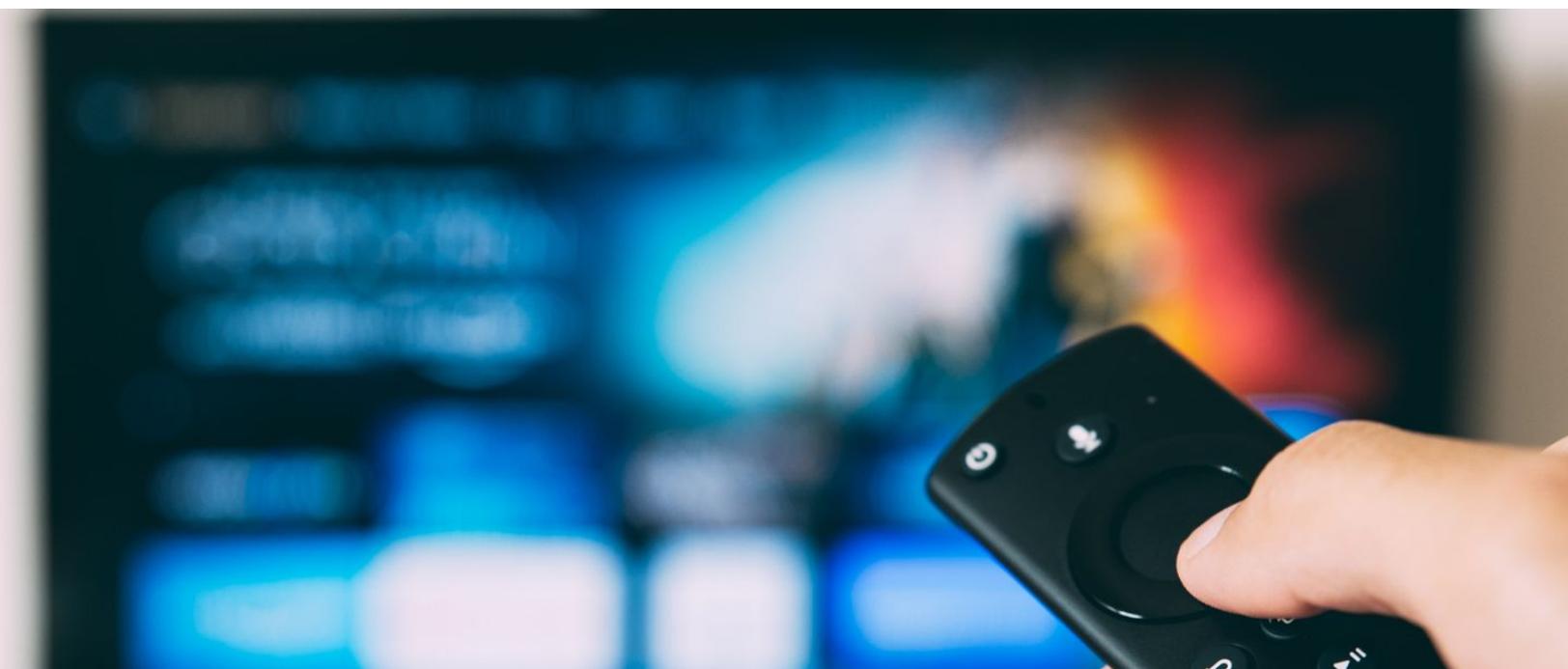
Business:
Leading Swiss cable operator

Founded:
1998

Website:
www.swisscom.com

Former Head of TV Development & Technology: Volker Dietzel

Volker Dietzel

PROTECTION FOR A NEW BREED OF SET-TOP THAT DEMANDS TOP-NOTCH INTEGRATION

There was a precedent for using Android set-top boxes in Switzerland. Wingo, the triple-play provider and Swisscom subsidiary, also uses a combination of Android OS and a Marvell Armada 1500 chipset on its M-Budget TV service. Dietzel views this as a successful proof-of-concept for what has now followed with Swisscom TV 2.0. With Swisscom TV 2.0, Marvell again supplied its Armada 1500 SoC platform, with a dedicated security processor.

A key challenge for this deployment was ensuring that an Android-based platform can support secure broadcast television (i.e. UDP IP multicast – or "classic" IPTV) including for 1080p HDTV, in addition to a variety of adaptive bitrate format video streams. The project therefore demanded a very effective integration between the revenue security solution and the set-top box SoC.

Swisscom knew that this innovative approach to content delivery would also require a strong best-of-breed vendor ecosystem. The company selected the Verimatrix Video Content Authority System (VCAS™) for IPTV to protect the broad range of linear TV delivered over UDP to set-top boxes on the new platform. Verimatrix worked closely with Marvell to implement an advanced security integration into the chipset hardware and software. This included integration into the native TV players that are part of the Marvell SDK.

The performance of trick-play functions like rewind and fast-forward was another important consideration and Swisscom has achieved a user experience that is considered the equal of what you would expect using a local hard disk. This is credited to the effectiveness of the Verimatrix and Marvell integration.

Swisscom selected Verimatrix because of its proven ability to protect even the largest, most popular offerings. VCAS for IPTV is the market leading pay-TV security solution (ranked No.1 globally in IPTV content protection and DRM for seven years running by the market research firm SNL Kagan) and it fully exploits the power of two-way broadband infrastructure to provide the highest levels of digital TV security.

"Swisscom is committed to providing our subscribers with convenient access to services they crave, on the device of their choice, any time. We chose to upgrade our revenue security solution to VCAS because its capabilities clearly align with this commitment," said Volker Dietzel, the company's former Head of TV Development & Technology. "VCAS for IPTV also gives us the flexibility to satisfy future customer demand beyond our managed network to any kind of mobile device, while seamlessly protecting our existing network configuration."

VCAS for IPTV can support linear and on-demand content across multiple network types and has been designed for a multi-DRM universe. The MultiRights™ component within VCAS means the native DRM systems needed to support different CE devices can be supported within a unified security umbrella so that content consumption rights are consistent and transparent between devices.

"VERIMATRIX WAS A BIG HELP INTEGRATING THE SECURITY STANDARDS IN THE DEEPER ANDROID LAYER, WORKING TOGETHER WITH MARVELL. VERIMATRIX AND MARVELL DID A GREAT JOB."

Swisscom is a network DVR pioneer and makes use of a specially architected ultra-fast caching system combined with internal memory on the set-top. Live-pause, rewind and start-over functions can be accommodated on the internal memory, with up to an hour of time-shifting before the set-top needs to access the network recording.

The most recent content on the most popular channels (covering the past 30 hours) is then cached and delivered from streaming servers designed to stream a high number of unicast sessions simultaneously.

The legacy platform (Swisscom TV 1.0) and the new Swisscom TV 2.0 platforms share the same head-end and video-on-demand ingest workflows, but have different content ingest points for linear television. Swisscom has already virtualized its backend functions for TV 2.0 on a private cloud running HP hardware, including content security using VCAS for Internet TV.

POWERFUL RESULTS

Swisscom TV 2.0 provides an example of what a future-facing IP and software centric pay-TV architecture can look like and illustrates how flexible operators need to be, working with parallel systems and combining multiple networks within a unifying user experience. Within this framework, Swisscom has achieved a smooth upgrade from a first generation IPTV system to a highly competitive multi-network and multi-screen service.

The use of Android for the first screen on a television service with more than 1.17 million subscribers is a notable industry development. Swisscom has demonstrated how a best-of-breed platform can be implemented using an Android-based, hybrid adaptive streaming/multicast approach with the highest levels of content security, ensuring immediate access to the best content. The company has also given itself the flexibility to introduce a unified security architecture covering multiple devices and DRMs beyond the managed network.

While all this technology may be invisible to Swisscom customers, the improved user experience has been widely recognized and means Swisscom can continue its rapid progress as a "challenger" TV service. The company has again demonstrated its willingness to take bold decisions and lay claim to the role of innovator in a dynamic marketplace.

"Verimatrix was a big help integrating the security standards in the deeper Android layer, working together with Marvell," Dietzel said. "Verimatrix and Marvell did a great job."

300,000

HOMES SIGNED UP TO THE NEW SWISSCOM TV 2.0 IN THE FIRST NINE MONTHS

About Swsisscom

Swisscom is the leading telecommunications and one of the leading IT companies in Switzerland, based in Ittigen near the capital Bern. Outside Switzerland, Swisscom is present in Italy with Fastweb. In the first half of 2020, around 19,000 employees achieved sales of CHF 5,443 million. Swisscom is 51 percent owned by the Swiss Confederation and is one of the most sustainable and innovative companies in Switzerland. Visit www.swisscom.com.

About Verimatrix VCAS™

VCAS is the fourth generation of the Verimatrix Video Content Authority System (VCAS™) - an end to end content and revenue security architecture for all kinds of networks and device types. VCAS provides software-based and IP centric solution profiles for IPTV, OTT, DVB, hybrid IP-OTT and DVB-OTT, and multi-DRM deployments, offering a future-proof platform to help video service providers secure and enhance their business.

About Verimatrix

Verimatrix (Euronext Paris: VMX) helps power the modern connected world with security made for people. We protect digital content, applications, and devices with intuitive, people-centered and frictionless security. Leading brands turn to Verimatrix to secure everything from premium movies and live streaming sports, to sensitive financial and healthcare data, to mission-critical mobile applications. We enable the trusted connections our customers depend on to deliver compelling content and experiences to millions of consumers around the world. Verimatrix helps partners get to market faster, scale easily, protect valuable revenue streams, and win new business. To learn more, visit www.verimatrix.com.

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