A VERIMATRIX SUCCESS STORY

# Chunghwa Telecom Leverages Verimatrix Technology for IPTV and OTT Disaster Recovery

verimatrix
DRIVING TRUST

# CHUNGHWA'S PLAN FOR REDUNDANCY & SYNCHRONIZATION

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

With the Verimatrix revenue security solution in place, Chunghwa Telecom wanted to leverage the innovative technology to create a complete disaster recovery solution for its IPTV and over-the-top (OTT) networks.

With two geo-redundant data centers in Taipei servicing customers in the northern region, and two geo-redundant data centers in Tainan servicing customers in the southern region, and high-speed networking between them, achieving multiple layers of geographic redundancy was of critical importance.

To achieve this redundancy, a plan was devised to allow each regional data center to failover to its respective backup regional data center, without any failover between the northern and southern regions. Each distinct user base would be managed independently, but with synchronization of all content ingestion occurring in the northern data centers, then being synchronized with southern data centers.

To ensure Chunghwa Telecom could achieve its disaster recovery goals with its Verimatrix solution, the Verimatrix Global Services team gained an in-depth understanding of Chunghwa Telecom's goals, and then devised a comprehensive plan to address them.

**Customer:**
Chunghwa Telecom Co., Ltd.

**Headquarters:**
No.21-3, Sec. 1, Xinyi Rd.,
Zhongzheng Dist.,
Taipei City 100
Taiwan

**Solution Deployed:**
Verimatrix Video Content Authority
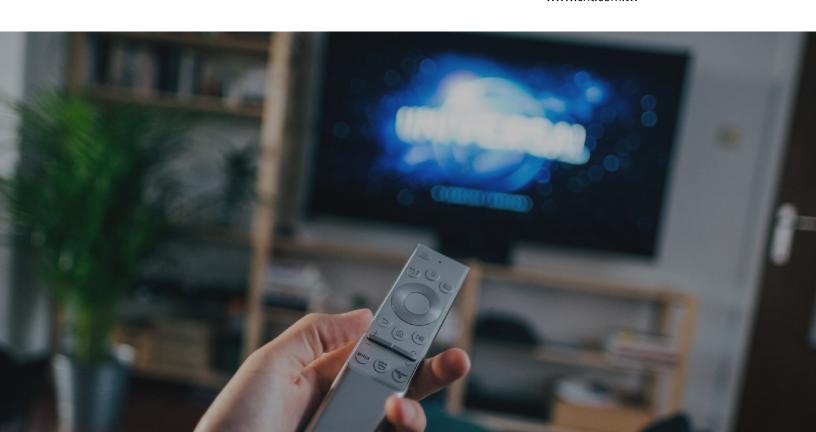System (VCAS™) for IPTV Wholesale/Retail

**Business:**
Taiwan's largest telecommunications
company and one of the largest in Asia

**Founded:**
1996

**Website:**
www.cht.com.tw

## THE GOALS FOR CHUNGHWA

**Ensure Geographic Redundancy:**
To achieve full geographic redundancy across all four data centers, Chunghwa Telecom needed to ensure that each of the data centers could failover transparently to the end subscriber in the event of a major failure or natural disaster.

**Synchronize across Key Territories:**
Chunghwa Telecom requires both regional data centers to serve their respective customers independently. However, all content must be ingested in the northern data centers, but have both encrypted content and decryption keys distributed across all the head-ends to support both live and on-demand content.

**Manage Distinct User Bases:**
This was not a matter of simply synchronizing the databases across all the data centers. The user records for the north and south sites must be kept unique, so they could fuel distinct subscriber management and billing solutions. The resulting solution must focus on only delivering content and security information, without synchronizing subscriber information.

To successfully resolve these challenges, the team needed to determine how to provide capacity and resiliency as well as how to provide geo-redundancy and disaster recovery. Due to its recent IPTV and multiscreen upgrade with Verimatrix, Chunghwa Telecom knew it could rely on Verimatrix to answer these questions and develop a comprehensive disaster recovery plan.

**How They Did It**
The Verimatrix Global Services team first implemented a comprehensive high-availability Oracle redundancy architecture, which included both Oracle Real Application Clusters (RAC) and Oracle Data Guard. The team used four geographically separated RAC databases, with two RAC databases in the southern region and two RAC database instances in the northern region.

Within each region, Oracle Data Guard was implemented in addition to Oracle RAC clustered databases to achieve maximized data redundancy and failover. This provided Chunghwa Telecom with both capacity and redundancy within each data center, as well as disaster recovery between each of the regional units.

To achieve real-time key synchronization across all data centers for both IPTV and OTT services, the Verimatrix Global Services team deployed a combination of VCAS for IPTV Wholesale/Retail and a custom solution (to synchronize the OTT content and keys in real-time). Since OTT keys update at a more rapid rate than IPTV keys, this required a high availability solution to synchronize across large distances for both live and on-demand content, with minimal latency, and maximum levels of disaster recovery.

**The Result**
This custom Verimatrix solution works seamlessly with Oracle's high availability and disaster recovery technologies, synchronizing encrypted assets and associated keys across multiple geo-redundant data centers without compromising data integrity or performance. Not only did the distributed IPTV and OTT system pass all functional, data redundancy and failover tests, the solution also survived several large earthquakes in Taiwan without a single issue.

## Looking Forward

Building upon enterprise-grade technologies from Verimatrix chosen suppliers, and addressing unique functional requirements from Chunghwa Telecom, Verimatrix Global Services developed customized, state-of-the-art technologies to address every critical concern to deploy high-performance, high-availability telco grade solutions for pay-TV operators. This is just one example of how Verimatrix can provide a complete support solution.

Together with support from Verimatrix and selected STB vendors, Chunghwa Telecom is implementing Verimatrix advanced security on their STB devices to fulfill the requirements of premium content providers. Boasting a team with versatile skills, the Verimatrix Global Services team can quickly adapt, customize and deliver solutions in the most challenging situations on a worldwide basis.

## About Chunghwa Telecom

Chunghwa Telecom is Taiwan's largest telecommunications company and one of the largest in Asia. The company also provides information and communication technology services to corporate customers and is expanding its cloud computing services. In recent years, Chunghwa has been actively involved in corporate social responsibility and has won domestic and international awards. For more information, please visit www.cht.com.tw.

## 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.

## CONTACT US

Verimatrix Headquarters
Impasse des carrés de l'Arc
Rond-point du Canet
13590 Meyreuil , France
Tel: +33 4 42 905 905

Verimatrix USA
6059 Cornerstone Court West
San Diego, CA 92121-3713
United States
Tel:+1 858 677 7800

Verimatrix Germany
Fraunhoferstr. 7 85737
Ismaning, Germany
Tel: +49 89 55265 100
Fax: +49 89 55265 101

**verimatrix**
DRIVING TRUST