



INITIAL SITUATION

Any process of transition as the one occurred in Portugal with the migration from analogical to digital television is disruptive and induce a strong social impact on the population, requiring a large proximity tracking and a permanent monitorisation of the quality of signal transmitted by DTT. ICP - ANACOM faces directly an average of 100 to 200 complaints per month regarding DTT failures. This problem is recurrent and the entity needs to keep protecting citizens' interests and needs. Since ICP - ANACOM's main purpose in this matter is to ensure that everyone has access to quality television service, the entity needed to take a major commitment of implementing an effective evaluation mechanism regarding the integrity of the actual DTT coverage provided, which requires a very specific technical infrastructure. Therefore, it intends to acquire an integrated solution based on a national network of sensors/probes that would monitor the DTT signal.

SOLUTION

The Consortium, between Ubiwhere and Wavecom, developed the solution named rprobe. This is an innovative project for the development of a modular solution which will allow the monitoring of other frequency ranges and whose interface can be updated according to the customer's needs.

THE PROJECT HAS BEEN DIVIDED INTO 4 PHASES

1



Monitoring probe prototype development;

2



Information system prototype development and monitoring probes production;

3



Pilot installation for tests, with prototype probes in 4 different places;

4



Integrated solution implementation, tests and validation.

rprobe

CUSTOMER SOLUTION CASE STUDY

OVERVIEW

ORGANISATION

ICP - Autoridade Nacional de Comunicações (ICP - ANACOM)

COUNTRY

Portugal

INDUSTRY

Public Entity

BUSINESS SITUATION

ICP - ANACOM wants to ensure that everyone has access to quality television service, and embraced the commitment to implement an effective mechanism for the real measurement of DTT coverage integrity.

SOLUTION

The DDT Probes Consortium, between Ubiwhere and Wavecom, developed a probe prototype for DVB-T signal monitoring, as well as the information system and a central server prototypes.

RESULT

By using this solution, ICP - ANACOM will have the necessary tools to measure the quality of signal in all regions selected to run tests.

This is the most effective way to analyse the results generated, and to improve and ensure that all houses in Portugal will have signal, so citizens can be fulfilled with the service provided.

It's also expected that all complaints regarding DTT reach 0(zero) until the end of the tests.

Hence, rprobe has the ability to measure (per second) the quality of signal and allows a low cost 24/7 monitoring and maintenance of DVB-T/T2 live transmission network.

rprobe supports the latest digital TV broadcast standards: DVB-T, DVB-T2/Lite and DVB-C. It can collect several information from the DVB-T signal such as, signal level (RSSI), modulation error rate (MER), signal-to-noise ratio (SNR), among other important DVB parameters, showing these ones in real-time or in a statistical way allowing representation, identification and characterisation.

This product ensures that the companies responsible for deploying DTT networks will provide a service that fulfils the broadcast's signal requirements.

The product has two components: the measuring unit and the centralised monitoring platform.



THE MEASURING UNIT SUPPORTS/INCLUDES:

- DTT standards: DVB-T, DVB-T2/Lite, DVB-C;
- Real-time data capture of most DVB signal parameters;
- Transport stream sample record;
- Storage memory to save collected data up to 7 days;
- Thresholds on all metrics to trigger different alarms;
- Local and remote management;
- Rejection filter for GSM/UMTS/LTE signals.

THE WEB AGENT INCLUDES:

- DVB-T Real Time Measurements;
- Measurement statistics;
- Probes Map Location;
- Configuration (Probe Parameters; Alert Thresholds; Probe Groups);
- Event-based system for dealing with Alerts and Errors;
- User and Profile Management;
- Auditing;
- High Availability and Redundancy.



RESULT

This project has been developed to ensure that responsible companies will provide a service that fulfills at least the minimal requirements in terms of quality and monitoring of signal.

There are now 400 antennas with sensors/probes in 38 different regions in Portugal (each region with the necessary number of antennas) that are monitoring the signal in residential environments.

Complaints have been reduced significantly, whether the interventions on the network required by the regulator to PT (already covered about 20% of the network) or by problems encountered with the user equipment, such as the use of DTT decoders in areas that have satellite emission.