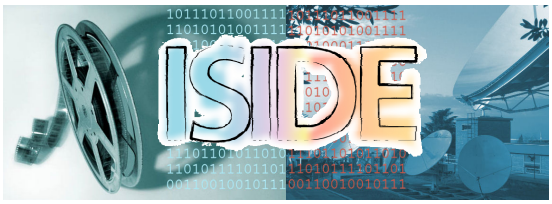

Innovative Satellite Interactive Digital Entertainment

Film reels have been used since more than a century for the delivery of movies to the cinema theatres. During the past few years, the distribution chain has faced a very rapid evolution due to the emergence of new digital technologies and standards. This has paved the way for innovative and cost effective solutions for cinemas. The transition from analogue to digital has been recently boosted by innovative formats (e.g. 3D movies) and by the increasing demand for live and interactive events (e.g. sport events, operas, virtual theatres, seminars) hosted in cinema theatres. The ISIDE project aims at identifying and developing a portfolio of cost-effective solutions for the n-Cinema (networked Cinema).

Who needs what?

The cinema owners need to:

- be able to order/purchase movies via an on-line catalogue
- receive digital movies in their theatres and have a user-friendly and reliable Digital Rights Management system

The distributors need to:

- deliver the digital movies to theatres in an efficient and cost effective manner
- keep track of the number of projections per movie and handle the associated billing
- ensure proper encryption of the content to prevent abuses
- provide remote Monitor & Control for troubleshooting

Challenges

Satellite capacity is a valuable resource, and one of the expensive elements of the value chain. Sustainability for pure distribution via satellite can be achieved only if a large amount of cinema theatres are reached. This is especially true for digital standards such as DCI (Digital Cinema Initiatives), which imply a high volume of data to be transmitted (one single movie can easily exceed 200 GBytes)

Interactive digital applications open new and exciting opportunities for the cinema theatres. As part of the ISIDE project, a virtual theatre event called "Global Stage" was set up and demonstrated. Thanks to satellite communications, two groups of actors, one in Rome and one in Burkina Faso (West Africa) were joined together live in a virtual stage during the Festa del Cinema in Rome, Italy. Several technical challenges had to be tackled to allow a synchronous participation of the two teams of actors, but the resulting performance was appreciated by audience and actors alike.

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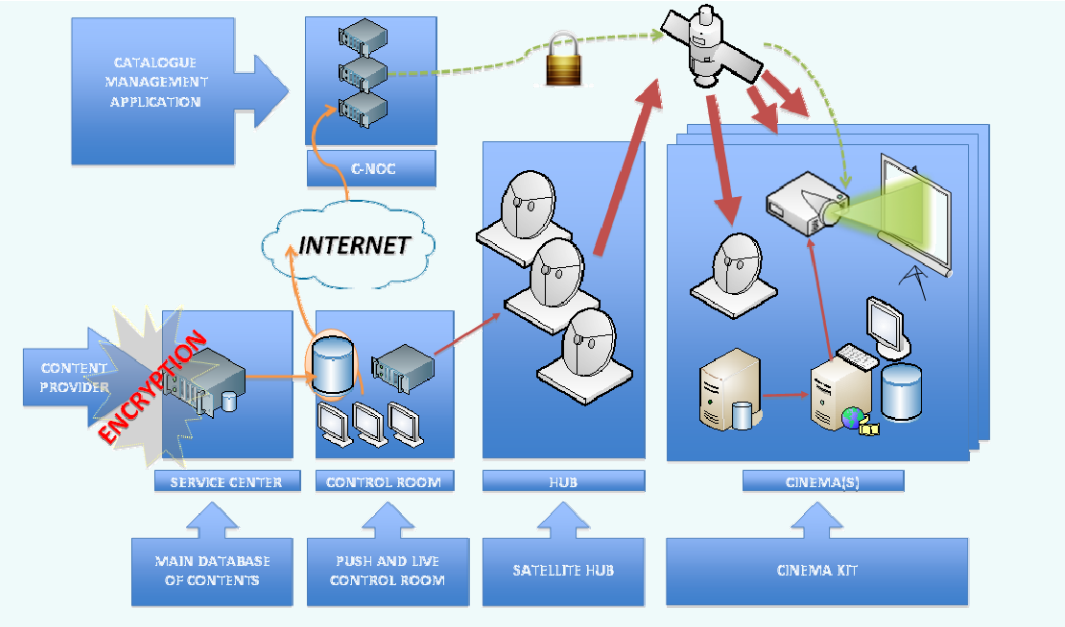
The ISIDE solution

The ISIDE architecture is composed of the following main blocks:

- A web interface with dedicated users' accounts to order and purchase movies online
- An interface with the content provider (i.e. the owner of the movie rights) to retrieve the files
- Online storage of database contents (i.e. digital files of movies)
- Control room(s) for the electronic delivery of the movie and/or the provision of the live events via Satellite News Gathering (SNG). The satellite delivery of Digital Cinema Package (DCP) files at a rate of up to 70Mbit/s is supported
- Encryption for Digital Rights Management
- Satellite Hub(s) based on the DVB-RCS/DVB-S2 standards
- The cinema theatres, equipped with bi-directional antennas and digital projectors

The ISIDE network also includes the Validation Platform (VP) hosted at the BIC Lazio (I) incubation centre. The VP provides a stable environment for further developments, tests and demonstration of applications and associated services.



Outcome

The ISIDE project was successfully concluded in April 2010. The solution identified has already proved to be sustainable in Italy, now serving a growing network composed of more than 150 cinema theatres.

Project details

Microcinema (I), OpenSky (I), Skylogic (I), Digital Pictures (I), with the collaboration of BIC Lazio (I).

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Collaborating with ESA

ARTES 3-4 is dedicated to the development, qualification, and demonstration of products, services and applications to improve the competitive position of industry in ESA member states in the field of satellite communications and in their associated utilisation.

The Applications segment of ARTES 3-4 is dedicated to the development, implementation and pilot utilisation of satcom based applications to be carried out in the operational context of the target end user environment. For more info, please visit the URL:

http://telecom.esa.int/applications

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