Modelling a distributed multimedia conference with RDF

Joaquín Salvachúa   **Gabriel Huecas**
Blanca Rodriguez   **Juán Quemada**
Technical University of Madrid

Introduction

Organization, managing and handling of a distributed multimedia conference is an effort-consuming task. It requires the collaboration of several people from different places and know-how (from lecturers to network designers). One key point for success is a textual document describing the conference structure with all the information required. Up to now several conferences have been organized using this approach, but is very error prone (for example the cut and paste of an IP address).

Out goal is to have a conference definition language (EDL) that aggregates all information needed to manage, deploy and establish the conference that may be referenced by a single URI.

RDF is used since it provides interoperability between applications that exchange machine-understandable information on the Web.

Use Scenario

Currently EDL configurations are produced thorough diverse user interfaces. Having all the information in one file allows to automatize the information exchange between different tools.

The file can be accessed by Web or distributed by E-Mail or any other media. Thus, scenarios without Internet access are also covered, as those with private addressing or ISDN networking.

Model

An EDL file (confErence Description Language) is a set of session descriptions and a set of sites descriptions. Each site is modelled as a node participating in a conference. Can be a interactive node (with all the presentation information) or a non-interactive that will act like multimedia aggregator and traffic shaping (MCU-like functionality). It includes multimedia transmission, multimedia presentation and network connection descriptions, which permits the conferences to use several network facilities. The model is a network facilities. The model is a distribution multimedia tree.

A conference will include information about the multimedia flows distribution and a set of sites. This allows the specification of the test-bed and partial conference definitions

EDL also copes with site template definition. This will facilitate for non-expert operators to add new sites without knowing all the details.

EDL is platform-independent both for multimedia application and networking. Current version is working for ISABEL CSCW [isabel] application but we are working on a version to work with SIP.

The RDF representation is neutral and will allow different tools to use a common representation.

Use inside Universal

EDL is in use within the UNIVERSAL IST project to allow the definition of CSCW delivery of Learning Resources. The EDL definitions for distributed classrooms are delivered to all the participants, launching the multimedia software, whilst having a unique managing centre.

This approach if fully integrated with the Universal Brokerage Platform (UBP) developed in the project [universal]. The UBP broker allows the sharing and distribution of distributed lectures and conferences. EDL has been successfully used on the live trials on 2001.

Conclusion

This approach is working currently in several projects. We are working on new tools that use this format. One line is to allow on the fly generation of the session information based on the CC/PP W3 ORG standard.

Another working line is to add digital verification to allow trust on files deployed through Internet.

References

[isabel] ISABEL:A CSCW application for the distribution of events. J. Quemada et all. *COST 237 Workshop on Multimedia Networks and Systems*,

[universal] Learning resource Catalog Design of the UNIVERSAL brokerage Platform. Goraz Vrabic et all. *ED-MEDIA 2001 conference.*