**Building a Multicasting Platform for Art**

**A Project of the MARCEL Network**

**Objective**:

The purpose of the project is to build an improved multicasting platform for interactive art events over high bandwidth networks responding better to artists’ requirements and needs for higher quality performance in real time. The targeted users are people interested in the cultural use of the interactive network in art, science and education, those interested in occupy the network space for culture.

The platform is being built by members of the MARCEL network, a permanent very high band-width network dedicated to artistic, educational and cultural experimentation, exchange between art and science and collaboration between art and industry, consisting of 250 members in 22 countries.

http://www.mmmarcel.org/

**Method**:

Starting with an existing multicasting platform, the developers will build new modules using patcher programming language to improve the quality of the tool, Access Grid, developed by the Argonne Antional Laboratory and now managed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ MARCEL has 12 years experience using AG as a performance and conferencing space.

The ideal in all performing arts is complete communication between players, musicians, actors, dancers, collaborating together over distance as though they were in the same physical space. The tools to do so exist but their technical quality is poor limiting the potential for artistic communcation.

Given the present level of the multicasting possibilities the following technical developments are essential to the proper operation of the space:

1. a minimum amount of latency in the exchange, 50 milliseconds or less which implies modifications in:

a. compression

b. buffering

c. transmission

2. full technical monitoring of sound and image possibilities available but hidden

3. real-time exchanges of audiovisual materials reinforcing the live event

4. display of the performing sites without technical windows to distract from the esetic experience

5.. built-in special video effects for real-time image manipulation

6. recognize gestures to control aspects of the exchange, eg. starting a slide show or controlling camera movement, able to trigger actions at a distance through natural intuitive movements allowing non-specialists to inhabit and operate the space.

7. instantaneous recording possibilities for all nodes simultaneously

8. interactivity with and distribution to a live audience over the web

9. spatialisation of different sound sources, with rendering in:

- stereo

- 5.1 home cinema

- binaural earphones

10. better module for echo canceling, denoising of each audio source and automatic normalisation of sound levels of different sources

11. automatic dynamic remixing: highlighting the speaker as a way of distinguishing the person from the others.

**Partners:**

Aristote

Slider Lab, Poitiers

MARCEL

L'Ange Carasuelo

**Results:**

The final platform tool will be offered free all members of the MARCEL network, to any others experimenting in the cultural use of the high bandwidth network. Anyone contributing to the development of the platform will be credited over the MARCEL network. They will also have free use of the platform for any non-commercial use.