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CONFERENCE ITEM

The SUMOVER project: Media tools' present and future

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Abstract

The UK Joint Infrastructure and Services Committee (JISC) has funded from 7/2005 to 7/2007 the SUMOVER project, aiming at improving the Media Tools (RAT, VIC and the UCL Common library) for the benefit of the research community. The outcome of the project is now making an impact on the community. In addition to the continuous bug fixes and updates, we are providing new features. We expect these features to have a stronger impact on the quality of the conferences, including those carried out over the AccessGrid. In this talk we are present the progress we have made in upgrading the Media Tools under SUMOVER.

The main innovations to date are based on the items of a wish list that was expressed in two workshops comprising users and developers that were held in October 2005 and January 2007. In VIC we have made the following improvements:

- Integrated a number of state-of-the-art video codecs, offering not only higher quality video, but also aiming at interoperability with other technologies, such as the inSORS IG2. The H.264 codec in VIC is capable of matching the 3 quality profiles offered by inSORS and it is doing so in a standardised way according to IETF RFC3984.
- Image overlay support
- An experimental new GUI by NCHC
- Scalable or full-screen video window
- Dynamic CPU architecture detection, as well as a new scriptable installer for Windows.
- A grabber for Windows based on DirectX/WDM,
- Graceful error handling
- The ability to build VIC with the latest versions of the Tcl/Tk libraries, which are available on most systems today.

Similarly, RAT has seen the following stability improvements and new features:

- Code related to audio buffer reading is now running thread safe.
- Error handling code has been significantly cleaned up to avoid side-effects which potentially led to crashes in the past.
- The ALSA driver has been improved where possible, with better handling of certain hardware (such as mixer controls and newer audio chipsets).
- The ability of RAT to re-bind dynamically on a new address and port at runtime.

The above listed new features and improvements are part of SUMOVER's target to form a common code base for the Media Tools, which would integrate the most important features we identified during the first year of the project scattered in various code repositories. We are now approaching our target of building a unified source repository that would benefit the whole AccessGrid community, by making the new features available to the AGTk toolkit, as well as by integrating the existing patches and features generated from within the AG community. We have been coordinating this effort with ANL over the past few months and we are expecting the new AG release to make use of the common code base.

SUMOVER held its 2nd workshop in January 2007, which emphasised the many technical issues that had been resolved and were included in the common code base. We have also received very positive results from our evaluation group, and we would like to maintain and further strengthen the interaction with the whole Advanced Collaborative Environments (ACE) community to identify directions which will help bring the Media Tools forward. The AccessGrid community can be a source of such discussions.

During the remainder of the project, we expect to ensure that the H.264 addition is compliant with both the RFC on packet formats and the release from inSORS. The achievement of this compatibility will require strong collaboration with inSORS. We expect that all the innovations will have been released not only on the web site but also in Access Grid release before the AG retreat. We expect also to incorporate further suggestions that may be made in the Retreat.

We will explore further sources of funding for this work – albeit at a lower level. We are not confident at present that such support will be forthcoming.