Visualization Techniques for the Analysis of Parallel Applications

Main Objectives
- Investigate new visualization techniques that take into account environmental characteristics
- Understand the influences of execution systems such as Grids in parallel applications
- Use information visualization techniques within the parallel and distributed research area
- Do practical experiences in Grid'5000 to validate the work

The 3D Approach
- Vertical dimension is time and is used to show the behavior evolution of application's components
- Other two dimensions to represent network topology and communication pattern of parallel applications
- 3D Interaction techniques are applied to the model and include camera rotation/translation/animation

Triva Prototype
- Developed with Objective-C and C++ languages
- 3D interface developed with the Ogre library
- Traces are managed by the DIMVisual library
- It is generic because of the Pajé Simulator
- Able to read traces from KAAPI applications, the Pajé format
- Animations to state transitions, changes in the communication pattern, and replay of traces

Results
- Execution of KAAPI application in Grid'5000
- Traces collected from applications composed by different number of processes: from 100 to 2900
- Screenshots of the prototype

Publications

Contact
- E-mail: Lucas.Schnorr@imag.fr
- Homepage: http://www.inf.ufrgs.br/~lmschnorr
- Triva: http://triva.gforge.inria.fr