Social Simulation: scaling up social science investigations

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Social scientists are not traditionally users of advanced ICTs but important drivers such as demographic change, migration, environmental impact of human activity or worldwide economic crises demand new approaches. Researchers are beginning to respond to this challenge and are looking for ways to exploit new sources of data and computational resources to generate new knowledge about the social world. We present experiences with porting code the National Grid Service and EGEE grid infrastructures and the integration into the p-Grade portal. Social simulation opens up new avenues for studying the social world with important implications for policy making and planning applications. Social simulation models and related codes (e.g., for population reconstruction) can be computationally expensive. The skills required to develop parallel code and to deploy it on HPC or grid infrastructures are not normally available in social science departments, making collaborations with external partners, e.g., from computer science departments, essential. In the EUAsiaGrid project, we are working to port social simulation code developed as part of the MoSeS node of the UK's National Centre for e-Social Science to the EGEE grid. We are collaborating with the W-GRASS team at the University of Westminster to grid-enable code and to make it available through the p-Grade portal. This involves technical work but also requires dealing with confidentiality and licensing issues as well as identifying sources of advice and access to resources. e-Social Science is an established area of research with a vibrant international community and its own conference, which is now in its 5th year. A number of applications and infrastructure components have been developed that enable a wide range of social scientific research. In order to sustain and continue to enhance these efforts, it is crucial that these outputs are made available to a wide audience of interested researchers. Our current work on porting social simulation applications allows us to address new user communities around the globe. Through EUAsiaGrid, we are in discussions with researchers in Asian countries such as Taiwan, who are interested to run simulation codes with their own datasets. In the longer term, and if licensing and confidentiality issues can be resolved, it may be possible to link simulations to investigate global phenomena. As alluded to above, developing the 'social infrastructure' is just as important as putting in place the technology. Social scientists do not normally have the resources or the skills to develop advanced ICT applications, so collaborations with other disciplines are crucial. As important research

drivers lead to increased interdisciplinary collaboration we expect the formation of networks and corresponding virtual organisations. The EUAsiaGrid project is exploring such synergies.