EUROPEAN RESEARCH NETWORK DEVELOPMENTS IN THE COMING YEARS

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The development of the European Research Network can be considered a conscious and systematic process just since the early or mid 90's, although it has been exactly 20 years ago when the co-operation between the European national research networking organisations has started by establishing RARE, the predecessor of TERENA. Since then, without doubt, the development has BEEN an unbroken, continuously successful series of remarkable milestones: having established DANTE, and enjoying the constantly generous support on behalf of the EU, the consortium of the national research networks have been and are building yet the seventh generation of the Pan-European research network - GEANT2. GN2, a major project of the 6th Research and Technological Development Programme (FP6) of the EU, makes a quantum leap beyond the previous solutions by entering the production phase of the 7th generation of our European research network providing nx10 Gbps transmission speed, enabling both IP and e2e (end-to-end) connectivity options, based dominantly on dark fibre technology, and characterised by such novelties as the joint activities devoted to research and development, or the intense development aiming at the global extension of the network. However, due to the totally new demands stemming from technological, architectural, and application as well as user oriented aspects, the traditionally smooth co-operation between the NRENs will face some crucial challenges during the next phase – ie. in the next development period following the 2008 finish of the GN2 project and the 2007 start of the EU FP7. The presentation tries to provide an overview of the expected new situation, the foreseeable aims and goals, the related issues and possible problems, and the available ways to go, by characterising in some details the collaboration frameworks, the organisational background, the financing options, the application aspects wrt. grid principles and practice, and, last but not least, the possibilities and dilemmas arising with the widening spectrum of applicable technological and architectural solutions – as well as the alternative opportunities being available when making the key decisions by taking into consideration the many emerging aspects.