

UNICORE 6 A European Grid Technology

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The development of UNICORE started back in 1997 with two projects funded by the German ministry of education and research (BMBF). UNICORE is a vertically integrated Grid middleware, which provides a seamless, secure, and intuitive access to distributed resources and data and provides components on all levels of a Grid architecture from an easy-to-use graphical client down to the interfaces to the Grid resources. Furthermore, UNICORE has a strong support for workflows while security is established through X.509 certificates. Since 2002 UNICORE is continuously improved to mature production ready quality and enhanced with more functionalities in several European projects. Today UNICORE is used in several national and international Grid infrastructures like D-Grid and DEISA and is also providing access to the national Supercomputer of the NIC in Germany. The talk will give details about the new version of UNICORE 6, which is web-services enabled, OGSA-based and standards-compliant. To begin with the underlying design principles and concepts of UNICORE are presented. A detailed architecture diagram shows the different components of UNICORE 6 and its interdependencies. This is followed by a view on the adoption of common open standards in UNICORE 6, which allows interoperability with other Grid technologies and a realisation of an open and extensible architecture. The talk closes with some interesting examples, where the UNICORE Grid technology is used. The European UNICORE Grid Middleware is available as Open Source from <http://www.unicore.eu>.