



# GRIDCC

**GRID  
Infrastructure for  
Virtual  
Instrumentation**

**GRIDCC Kick-off Meeting  
Athens, 14-15 September 2004**

# WP3 - GRID Enabled Instrumentation

## Main aim

Development of a Web Services based middleware allowing the interactive and real-time management of remote instrumentations distributed over a geographical network. Starting date has been fixed to November 2004.

# WP8 – Project Management



# WP6 – Integration & Pilot Applications

## Main aim

Integration of different versions related to GRIDCC middleware, developed in WP3, into real-life applications. Start date has been fixed to September 2004 (now).

During task one (Preparation of GRIDCC test-beds) the first CNIT activity will consist of a continuous cooperation with the GRID-enabled site Legnaro-INFN. After a training phase a small cluster of PCs will be created, on which it is possible to install GLOBUS as GRID middleware and to use all developed GRID-based facilities to integrate our SW architecture supporting e-measurement with GRID middleware. In that way it will be possible give a significant contribution in the identification of specific requirements (especially concerning real-time) related to remote control of experiments to be implemented in GRIDCC middleware.



# WP7 – Dissemination

## Main aim

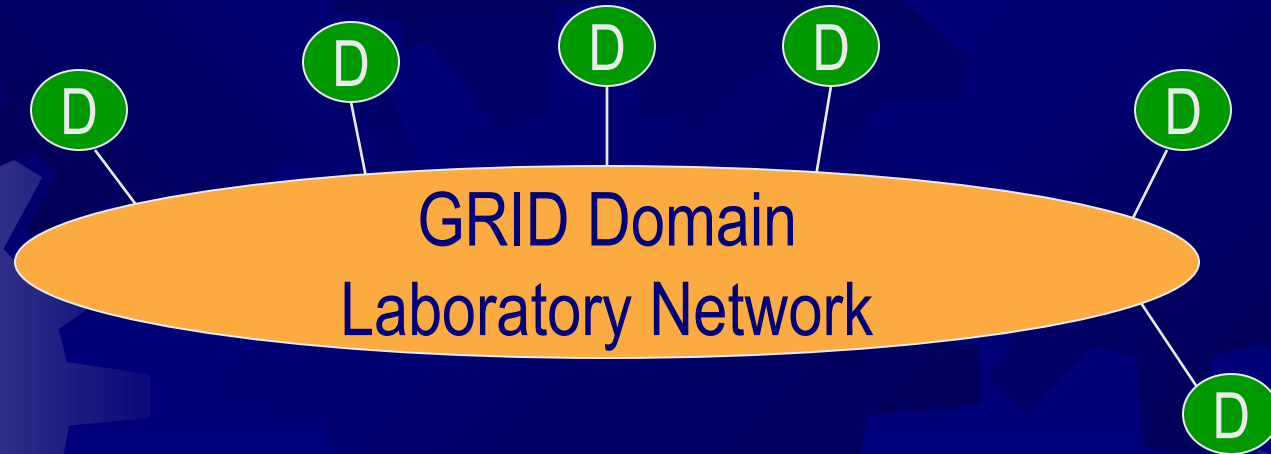
Dissemination and exploitation of the project results to make GRIDCC attractive for both scientific and industry communities, emphasizing the cooperation with other GRID projects. Start date has been fixed to September 2004 (now).



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# Instruments as Shared Resource in a GRID: the Device Farm



- **The (Networked) Device Farm is exploited by middleware and network facilities**
- **Each Instrument may consist of:**
  - a physical device
  - a software emulated device
- **Data exchange can be performed in a real-time/near real-time/no real-time fashion according to the actual bandwidth and resources availability and user needs**



# Problem Areas

## A GRID-Enabled Routing Algorithm

### ✓ Goals

- Enabling coherent, network-aware, GRID usage
- Perform “Access Control” over the GRID infrastructure (in terms of both computing and network requirements)
- Route user requests by exploiting different requirements (e.g., storage/computational speed/link speed)
- Managing fault conditions, such as a link or node fault
- Re-route data from a physical instrument to a virtual one, or, if the amount of data is large, move the virtual instrument code to the node itself.

