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LiveWN, CPU Scavenging in the Grid Era: Expanding EGEE Infrastructure to the Millions

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Content :

The project's goal is to introduce an easy and versatile way to provide and use Grid resources, acting both as a Worker Node and User Interface, without the need of any operating system installation or middleware configuration on users' machines.

At the same time it provides an excellent training tool for new Grid users and novices that want to experiment, without requiring installation. It has been tested thoroughly under different circumstances with success.

LiveWN works in the form of a LiveCD or memory stick under a virtual machine within many popular host operating systems.

summary :

The LiveWN project's primary goal is to add computational resources to the Grid in a simple way, user friendly enough that non-experts can use. So far, no one has accomplished fully dynamic resource management on the LCG/EGEE grid, since there has to be coordination at the system administration level in order to tune installation parameters, like hostnames, domain, etc. The LiveWN image is a technology that solves this problem in a versatile way so that Worker Nodes (WNs) can be setup and used behind firewalls, within virtual machines, over dial-up lines,

etc. We have tried all these alternatives and it just works, without requiring any significant expertise.

The LiveWN solution is a mixture of three technologies, already supplied by others:

- A Knoppix-like LiveCD
- LCG/EGEE middleware
- An OpenVPN IP tunnel

GRNET is the coordinator of the HellasGrid project, promoting Grid technologies in Greece and participates in regional Grid activities in South Eastern Europe.

GRNET is actively exploring the idea of integrating resources that are available within the academic community in Greece, by engaging with the National Technical University of Athens, who is the original provider of the LiveWN technology. We envisage that this approach, which combines CPU scavenging and Grid technologies could allow applications in dynamic worldwide Grid environments.

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