



Contribution ID: 47

Type: Poster

EGEE worker nodes running in virtual machines on windows desktops

Tuesday, 23 September 2008 16:23 (0 minutes)

Describe the activity, tool or service using or enhancing the EGEE infrastructure or results. A high-level description is needed here (Neither a detailed specialist report nor a list of references is required).

We propose a solution that allows windows desktop computers to run 7x24h EGEE worker nodes in a virtual machine. The proposed solution has two major parts, i) an automatic (overnight) installation system that can do the weekly automatic updates (software package management and security updates) of the windows operating system from an up to date central machine, ii) a configuration of the windows system that allows the run of the worker node on a virtual machine without well protected from

Abstracts for online demonstrations must provide a summary of the demo content. Places for demos are limited and this summary will be used as part of the selection procedure. Please include the visual impact of the demo and highlight any specific requirements (e.g. network connection). In general, a successful demo is expected to have some supporting material (poster) and be capable of running on a single screen or projector.

The proposed demo consists of two parts. One part is the demonstration of the easy deployment of the windows workstations with EGEE worker nodes running on them. It shows the deployment procedure which is followed by demonstrating an EGEE worker node inside a local windows workstation running jobs.

Report on the impact of the activity, tool or service. This should include a description of how grid technology enabled or enhanced the result, or how you have enabled or enhanced the infrastructure for other users.

The main impact of this extension is the possibility to extend the capacity of the grid to computers which need to run windows during daytime for administrative or educational purposes, while keeping worker nodes available 7x24h. Running the worker node as a virtual machine has many advantages over other solutions: i) a well configured system has almost unmeasurable CPU overhead in the virtual machine, ii) the system installation of the virtual worker nodes can be the same as normal ones

thus no extra work is needed, iii) it is possible to configure the windows desktops such that users cannot turn them off allowing the virtual machine to run uninterruptedly and ensure the 7x24h availability of the worker node (except for weekly updates when reboot is needed). The supplied maintenance and update solution helps system administrators to adapt this solution easily, since existing windows configurations can be used without major modifications. This solution makes it possible t

Describe the added value of the grid for your activity, or the value your tool or service adds for other grid users. This should include the scale of the activity and of the potential user community, and the relevance for other scientific or business applications.

The main advantage of our solution is to allow the incorporation of desktop computers running Windows operating system into the EGEE grid. These computers run a VirtualBox virtual machine as a service, well separated from the users. This EGEE worker node running with low priority apart from memory consumption does not disturb the desktop work but uses the CPU when the host is idle. The worker node uses Virtual Private Network to connect to the grid for security reasons. This feature is extended by an automatic torrent based windows update system that updates all windows images from the maintained central computer which generally required only once per week. The bittorrent protocol enables the fast distribution of the updated windows images which minimizes the downtime of the computer during the weekly windows updates. It is also possible to freeze the virtual machine for the Windows reboot time.

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