Contribution ID: **128**   Type: **Oral**

Enabling business applications over a Grid infrastructure

Thursday 5 March 2009 17:50 (20 minutes)

In today market companies need to be agile and adapt to fast changes. Resource dimensioning is an hard and risky task which may lead companies to under-provision their data-center, which means unable to cope with peak loads, or over-provisioning it, which means unable to fullfill their ROI. We present our cloud-like solution over a gLite infrastructure. Two different scenarios are shown: a multi-tier web-based application hosting and a virtualization based hosting.

Impact

The combination of SOA and Grid paradigms will leverage the emerging concept of service oriented market. Business relationships will be regulated by business contracts containing the level of the services in terms of quality, reliability, time constraints, responsibility, penalties and methods of payment.

SME companies will have more opportunities to compete with large enterprises, as huge investments on IT will not be required and costs will be redirected on services subscriptions rather than bare metal.

The benefits that would come can directly impact costs and productivity of companies. Business customers should experience an improvement on their business processes affecting thereby their performance, at the same time reducing costs.

Depending on the type of services, tangible business values might concern accelerating time to market, improving product quality or increasing ROI.

URL for further information

http://www.consorzio-cometa.it/s-sicilia/
http://s-sicilia.unime.it/index.php

Conclusions and Future Work

One of the next step will be to assess this solution over different Grid domains and measure the relative performances. Moreover, we want to expand the range of virtualized service, to offer virtual data-center solutions. This means providing virtual Application Server, virtual DB, virtual balancers, etc.

Also, we are currently working to migrate our SLA approach from WSLA to WS-Agreement.

Finally, we want to investigate the use of OpenNEbula, to include a management layer for VMs.

Keywords

Business Grid, Cloud computing, virtualization, SOA

Detailed analysis

The infrastructure consists of first the SLA engine which aims to provide the mechanisms to handle business contracts (SLAs) on which B2B and B2C relationships are based. This module acts from one side as the interface with customers, providing access to the whole infrastructure. On the other side, it interfaces with the lower Grid infrastructure, which deal with the low level resources. Secondly it consists of QoS mechanisms,

providing the QoS functionalities that the Grid infrastructure does not provide natively. Decisions are taken by considering computation (CPU and RAM), storage and network resources. It also provides a prediction service to the SLA engine, that gives an estimate on the particular service upon it's been enquired. Third the Virtualization, which allows running applications with particular requirements, offering isolation and security mechanisms complementary to operating system, customization and encapsulation of entire application environments, and support for legacy applications.

Primary author: Dr RAGUSA, Carmelo (Cometa consortium at University of Messina)

Co-authors: Prof. PULIAFITO, Antonio (University of Messina); Mr LONGO, Francesco (University of Messina)

Presenter: Dr RAGUSA, Carmelo (Cometa consortium at University of Messina)

Session Classification: New Application Areas

Track Classification: Emerging Technologies within the EGEE infrastructure