

OGF-EU event: International cooperation for large-scale DCI interoperability

By [Gillian Law](#)
16 March 2010

How do you bring together grid infrastructures based around the world and get the developers talking and working together? Cultural differences, technological choices – small things can get in the way of people working jointly and benefiting from a worldwide network of people working in the same field.

With that in mind, OGF-EU ran a workshop, called International cooperation for large-scale DCI interoperability, at the OGF28 conference in Munich this week.

Silvana Muscella, OGF.eeig and workshop chair, introduced the session, saying that she hoped to pick up on and build on the success of a session held at OGF24 in Singapore two years ago. Here was a second chance to bring together representatives from European and Asian infrastructures and get them talking about the work they're doing in their regions, and how that collaboration could be expanded to create, eventually, a 'seamless' Grid infrastructure.

Speakers came from across Europe and Asia, and talked about what's being done in their respective regions.

Eric Yen, Technical Manager with the Academia Sinica Grid Centre took a look at production grids in Asia.

There are more than 11,000 cpu cores in the Asia Pacific region, Yen says, and 74.5 PB of disk space – the majority of that in Taiwan, he says. There are 29 production grid sites across 11 countries in the region.

However, while the countries in the region are richly connected – well enough to be able to save the day with 'disaster recovery' rerouting when Singapore and Hong Kong lost their main broadband links for two weeks, intercontinental broadband links are still poor, Yen says, and that limits the connections that can be made between regions.

Another issue is too much of a focus purely on the technology, Yen says: if scientists are to use the grid's potential, developers need to focus on building applications specifically for them, and to focus on building communities who will want to work together.

Next up was Marco Paganoni, associate professor at the University of Milano-Bicocca and physicist at INFN.

Echoing Yen, Paganoni spoke about the EUAsiaGrid, and said that engaging communities was vital. Depending on regional priorities, building the right relationships could create tight ties, and allow people to get to know projects in other regions.

The GAP (Grid Application Program) Virtual Screening Service, for example, involves research into dengue fever: a "neglected" disease, says Paganoni, which affects mainly children and, unlike malaria, is rife in urban as well as rural areas.

According to the program's own site, 50 million cases of Dengue infection are estimated to occur each year around the world, and around 95 percent of those are in children under 15 in South East Asia.

To date, Paganoni says, 12 CPU-years of work have already been done, screening 300,000 compounds and extracting the top 10 percent of those for further screening.

The project is also involved in Asian Flu drug discovery, and in earthquake and climate change mitigation, he said.

A further interesting project is the CHAIN (Co-ordination and Harmonisation of Advanced e-Infrastructures) collaboration that is being set up to run for two years to "enhance the collaboration / coordination and harmonisation of European and non-European e-Infrastructures." The project will involve Europe, China and India, and will focus on projects that are important to each region, including disaster mitigation, traffic problems, and developing digital culture.

Stefano Cozzini, CNR/IOM, ICTP and EUIndiaGrid2 Technical Coordinator, spoke about EUIndiaGrid2's work to enhance cooperation between European and Indian grid infrastructures, and described India's Garuda grid initiative.

Operating since 2004, the grid is now run by NKN, the National Knowledge Network – a project set up by the Indian government to bring together science, technology, higher education, research and development and grid projects. The aim is to create a high speed, low latency network connecting all higher education and scientific institutions in the country, over a period of three years.

"Fifty seven institutes are connected already, and the government's given approval to move forward into the final phase," Cozzini said.

EUIndiaGrid2's vision is to create a merged network, grid and data infrastructure and user communities, but the biggest challenge at the moment is interoperability between the middleware used in the European Union and India, he said. Garuda is based on Sigma, and uses GT4 for job submission, where Europe tends to use gLite, Unicore and Arc. There also needs to be more synergy between the user communities: "global e-science goals need common tools," he said.

The session was wrapped up by Mario Reale, GARR and EUMEDGRID-Support Technical Coordinator.

EUMEDGRID-Support is a two year project funded by the European Commission, which started in January 2010. With 14 partners from 13 countries, it aims to support the consolidation and expansion of the EUMEDGRID infrastructure, with a particular focus on sustainability.

"We'll deal with the high level policy dissemination, create a network of competence centres and widen the human network," said Reale.

User support will be offered on two levels – locally, with the users, and from a more centralised support centre, too.

Extensive training will be provided, initially using tools from the IGI ROC (Italian grid Infrastructure Regional Operations Centre).

The Support team will also serve as a point of contact for projects that are collaborating or wish to collaborate with the project and establish formal collaboration agreements.

25 EUMEDGRID sites have been deployed in 13 countries, giving a total of 1800 connected Servers and about 84 TBs of storage capacity.

Having listened to all these examples of good work being done around the world, it was back to Muscella to wrap up, and she focused on how we can move forward from here, to make today's meeting worthwhile.

"Can we get all these projects to attend GIN (Grid Interoperation Now) community groups? Or maybe we can have OGF31 in India! We have the contacts here, but I really think we need to become better at engagement," she said.

It's important to find a way to get people talking regularly, too, she said, rather than just waiting for the next OGF meeting to take place – "That's something we can take from here. This has been great as an introduction, but we need more, or it won't have served its purpose."

This article is produced by **Digital Systems**. Its publication does not imply any endorsement by **Digital Systems** of the products or services referenced within it. Any use of this article independent of the **Digital Systems'** Web site must include the author's byline plus a link to the original material on the Web site.