GRID and CLOUD FOR DEVELOPING COUNTRIES

Monique Petitdidier
IPSL, LATMOS, GUYANCOURT, France (monique.petitdidier@latmos.ipsl.fr)

The European Grid e-infrastructure has shown the capacity to connect geographically distributed heterogeneous compute resources in a secure way taking advantages of a robust and fast REN (Research and Education Network). In many countries like in Africa the first step has been to implement a REN and regional organizations like Ubuntunet, WACREN or ASREN to coordinate the development, improvement of the network and its interconnection. The Internet connections are still exploding in those countries. The second step has been to fill up compute needs of the scientists. Even if many of them have their own multi-core or not laptops for more and more applications it is not enough because they have to face intensive computing due to the large amount of data to be processed and/or complex codes. So far one solution has been to go abroad in Europe or in America to run large applications or not to participate to international communities. The Grid is very attractive to connect geographically-distributed heterogeneous resources, aggregate new ones and create new sites on the REN with a secure access. All the users have the same services even if they have no resources in their institute. With faster and more robust internet they will be able to take advantage of the European Grid. There are different initiatives to provide resources and training like UNESCO/HP Brain Gain initiative, EUMEDGrid, ..Nowadays Cloud becomes very attractive and they start to be developed in some countries.
In this talk challenges for those countries to implement such e-infrastructures, to develop in parallel scientific and technical research and education in the new technologies will be presented illustrated by examples.