



Workshop on  
**Optimization Technologies  
for Low-Bandwidth Networks**

9 - 20 October 2006  
Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics is organizing a "**Workshop on Optimization Technologies for Low-Bandwidth Networks**", 9 - 20 October 2006.  
Directors: E. Canessa, C. Fonda and M. Zennaro (ICTP-SDU, Italy).

Bandwidth in developing countries can be so expensive that some universities cannot afford speeds equivalent to the average Western household with ADSL connection. The reasons for this situation include: Internet access available only via satellite connections and lack of communications infrastructure in many remote areas. Bandwidth and computing equipment are expensive as a result of weak currencies, high transport costs, small budgets and high tariffs. Universities cannot afford a decent link or, in some cases, still do not see its value or are unaware of existing alternatives. By applying optimization techniques based on Open Source technologies, effectiveness of available connections can be highly improved.

The Workshop will provide information and practical training on how to gain the maximum benefit from existing connections to the Internet, exposing participants to the latest techniques to optimise the use of low-bandwidth network connections.

The Workshop will consist of theoretical lectures, laboratory hands-on sessions and demonstrations. Linux will be used as primary O.S. Case Studies by Participants are also welcome, describing their computing and networking environment and connectivity related problems, issues on content delivery, etc.

Further details are available at:

<http://sdu.ictp.it/lowbandwidth/>

#### **PARTICIPATION**

The Workshop is open to scientific computer consultants and network managers working in scientific institutions and isolated scientific environments with a minimal infrastructure. The main purpose of the Centre is to help research workers from developing countries within a framework of international cooperation. Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the Workshop. As it will be conducted in English, participants should have an adequate working knowledge of this language.

As a rule, travel and subsistence expenses of the participants should be borne by the home institution. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available for some participants who are nationals of, and working in, a developing country, who will be selected by the Organizers, and who are not more than 45 years old. Such support is available only for those who attend the entire duration of the Workshop. **There is no registration fee.** For both technical reasons and limited resources the total attendance to this Workshop is limited.

The **Application Form** (with a brief Technical Questionnaire) is obtainable from:  
<http://agenda.ictp.it/smr.php?1776> or from the activity Secretariat (address below).  
It should be completed and

returned before **17 May 2006**

to:  
**Workshop on Optimization Technologies for Low-Bandwidth Networks**  
(*smr 1776*) (c/o Ms. Patricia Wardell)  
the Abdus Salam International Centre for Theoretical Physics  
Strada Costiera 11, 34014 Trieste, Italy

or via e-mail to:

[smr1776@ictp.it](mailto:smr1776@ictp.it) (please save and send file attachments in RTF format)

## Topics

- **Open Source Software (OSS) for bandwidth optimization.**
- **OSS for network services in a scientific environment.**
- **Bandwidth issues in network administration and Unix system administration.**
- **Network architecture design and optimization.**
- **DNS caching, network monitoring, bandwidth management and measurement.**
- **Network traffic filtering, security and authentication.**
- **Proxy/Caching systems, ftp/web mirroring, off-line web.**
- **Web filtering techniques for low bandwidth environments.**
- **Web to e-mail gateways.**
- **E-mail management: strategies against spam and viruses.**

