Current Work and Future Plans

- Dynamic interconnection of independently reserved lab topologies using connectors
- Integration of remote user's PC into lab topology
- Integration with Cisco Packet Tracer
- Group reservations for simpler usage in regular teacher-led classes
- Configurable generators of realistic network traffic

Interested in Participating ?

Please don't hesitate to contact us if you want to get involved in any way.

- Send an e-mail to virtlab-admin@cs.vsb.cz if you want to create an account and try out Virtlab in action.
- Contact project leader if you consider to cooperate with us:

Petr Grygárek
Department of Computer Science
Faculty of Electrical Engineering
and Computer Science
Technical University of Ostrava
17. listopadu 15
708 33 Ostrava-Poruba
Czech Republic

e-mail: petr.grygarek@vsb.cz
Telephone: +420 59 732 3243

The Semivirtual Distributed Environment for Learning, Research and Testing of Networking Technologies

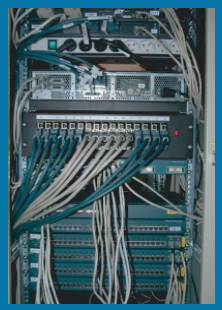
Virtlab

http://www.virtlab.cz

Virtlab Project Overview

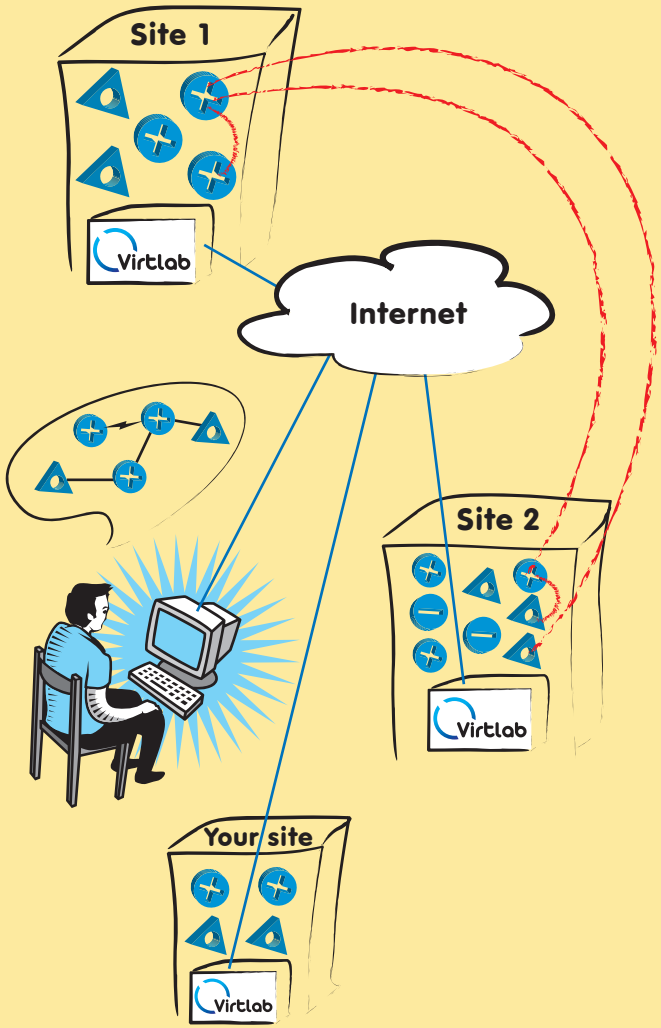
The aim of the Virtlab project is to make networking lab equipment of multiple teaching and research institutions accessible remotely and to give users more opportunity for experiments with real networking devices. Users may reserve lab equipment and then access it using a standard WWW browser.

The interconnection of the required topology is accomplished automatically according to the topology of the task selected by the user from a collection of predefined tasks. The user may also ask to interconnect his/her own topology. Partner lab sites may either operate independently or borrow lab devices from each other, over the Internet, to create large-scale virtual topologies beyond the limits of a single institution. The physical devices which best suit the requirements of the particular topology reservation are found dynamically thorough all cooperating sites. The distributed nature of the resulting virtual topology is completely hidden to the user.



Virtlab

On-Demand Creation of Distributed Virtual Topology Spanning Mutiple Lab Sites



Key Features

- Lab equipment is available remotely 24 hours, 7 days a week.
- Sharing of lab devices between multiple institutions decreases the cost of lab equipment ownership and innovation investments.
- The required network topology is automatically prepared for use in less than 3 minutes, including eventual preconfiguration of lab devices.
- Conditions of providing individual local lab devices to users of other sites are completely under the control of the site administrator.
- Failed device may be easily substituted with another one.
- Users from multiple sites may work together on the same lab task.
- Shared access to lab devices' consoles stimulates mutual learning and supports various scenarios of tutor-led work.
- Tens of high-quality lab tasks prepared by experienced Cisco Networking Academy instructors are available. Users' own experiments are supported as well.
- Functionality of users' configurations may be automatically checked using a tutor-defined set of parametrizable testing rules and test results archived.
- Virtual network probes allow capturing of traffic passing any Ethernet interface in the lab topology for later analysis using Wireshark.
- System is fully prepared to work in an international environment.

http://www.virtlab.cz