

A large, stylized map of Europe is the central focus of the page. It is composed of a grid of small squares in various shades of yellow and light green, creating a pixelated or mosaic effect. The map is positioned on a white background that is partially overlaid by a dark teal banner at the top. The word "Report" is printed in a dark teal font to the right of the map's main body.

Report on current status of  
lighthpaths on campuses in Finland

Report

Produced by CSC/Funet

Author[s]: Janne Oksanen  
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Contact: janne.oksanen (at) csc.fi

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## Background

Funet [1] is involved in the “Campus Best Practices” project, which is part of GEANT3 (GN3)[2]. Funet has traditionally been a datacommunications operator for Funet member organisations, and the operations have mainly involved the backbone network sector. The GN3 project allows Funet to be more active in the campus network sector and thereby to offer more extensive support for its customers.

The objective of the GN3 project is to cooperate with both Funet members and other European NREN organisations (NREN, National Research and Education Network) in finding and documenting best practices benefiting users. Possible forms of cooperation include various seminars, workshops, courses and meetings. The results of the cooperation could be published on the Funet Wiki [3], for example.

A survey on lightpath technology was carried out among Funet member organisations with the aim of charting the extent of knowledge on the technology among member organisations. This report provides a summary of the results of the survey.

## The survey and results

The survey was performed using the Webropol tool [4], which allowed respondents to reply using a web browser. This was done to make responding to the survey straightforward and attractive compared to printed forms, for example. Having the replies in electronic format also sped up the processing of the results.

The lightpath survey was advertised in the monthly Funet newsletter, which is distributed to all Funet member organisations, in both November 2009 and January 2010. A link to the survey was also sent by e-mail to technical and administrative Funet contact persons in January 2010. The response rate was 34%. Half of the respondents came from universities and a third from universities of applied sciences.

80.8% of all respondents were familiar with lightpath technology at some level. Although the majority were familiar with lightpath technology, only less than 10% of the respondents had their own lightpath infrastructure in place. These member organisations had successfully utilised the technology in their network infrastructure in various applications, including campus backbone network connections, machine room networks and remote office connections. The connections used included 1Gbit/s and 10Gbit/s connections exploiting both DWDM and CWDM technology.

Only two respondents had their own CWDM hardware. They had been satisfied with the hardware because of its reliability of operation. The hardware manufacturers are not indicated in the results.

The respondents were asked how a lightpath could be made available to (a team of) researchers; the responses indicated that the fibre-optic infrastructure is in place, but that hardware is not. The respondents had only given consideration to physical connections, but had not thought of the information security perspective, for example.

Considering the number of respondents, the majority do not use lightpath technology. When asked what type of support the respondents would need for lightpath technology, the answers indicated that the technology is not that familiar and that further information in various forms would be needed. For example, the respondents called for case examples, training, and information on tested and functional hardware as well as information on how to gain access to a lightpath (within Funet and using own hardware).

## Conclusions and remarks

The results of the survey indicate that the majority of Funet member organisations lack in-depth knowledge of lightpath technology. There are undoubtedly several reasons behind this. In most cases, the reason is likely to involve the limited personnel resources available for learning about the technology. The lack of time to study new technology means that the opportunities for utilising the technology remain limited.

Because of the lack of familiarity with the technology, the hardware is also unfamiliar; the respondents were unsure of the type of hardware required and the associated costs.

The results of the survey enable the planning of future Funet operations with a view to providing the necessary support on lightpath technology. Documentation on two implementations is already being produced; one of the implementations has already been deployed, while the other one is likely to be deployed within one year. The results will be published on the Funet Wiki, with the publication to be announced in the Funet newsletter.

# Appendices

- [1]: Funet: <http://www.funet.fi>
- [2]: Geant: <http://www.geant.net/>
- [3]: Funet Wiki: <https://info.funet.fi/wiki>
- [4]: Webropol: <http://www.webropol.com>

