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## Technical Information and Frequently Asked Questions Project 'Internet for Schools'

### Purpose

Since 2002, Swisscom (Switzerland) Ltd has offered all Swiss schools a sponsored Internet connection and a security solution for an extra charge. More than 4,000 schools have taken advantage of this offer.

The security solution includes a firewall and content screening filter and is available for all connections for an extra charge.

Swisscom (Switzerland) Ltd is offering the cantons an educational network at one-off rates that connects all LANs (local networks) of the schools to form a single communication infrastructure with guaranteed bandwidths/response times and offers a central internet connection with generous bandwidth.

Once a school is online, pupils and teachers can use the Internet around the clock without restrictions and without volume limits.

Security is ensured by a central firewall that protects the educational network against unauthorised access from and to the outside.

This guideline sets out the technical and organisational framework for the connection of schools within the canton.

#### 'Open Net' offer

SAI 'Open Net' offer, security must be provided by the canton or a third party (security is not provided by Swisscom)

Copper- or fibre-optic internet connection. Optical fibre with FTTH (Fibre To The Home) A bandwidth of up to 500/500 Mbps including a public IP address is free of charge.

Security (firewall and web content screening/WCS as well as cloud security service/CSS) is provided by the canton, the school or a third party.

#### 'Extra' and 'Special' offer

Copper- or fibre-optic internet connection. Optical fibre with FTTH (Fibre To The Home) Security (firewall and web content screening/WCS as well as cloud security service/CSS) is provided by Swisscom subject to a fee.

'Special' for connections with higher bandwidth

If other technologies do not meet the requirements or if bandwidth requirements are very high, we offer an SAI connection with dedicated Fibre To The Office (FTTO).



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### 1 Solution summary (B2B offer)

The SAI educational network implemented and operated by Swisscom Ltd is based on the Enterprise Connect platform (formerly LAN-I connections).

The optional security solution uses Swisscom Ltd's Managed Firewall expert service and the Zscaler service as a web content filter.

The educational network for connecting schools to the Internet is completely separate from the administrative networks of the individual cantons.

The schools connect their end devices (tablets, laptops, PCs, printers) via an Ethernet LAN and connect this to the Swisscom router on site.

All routers form a closed Layer 3 network for each canton with any-to-any connectivity. The network has a single central and secure connection to the Internet.

A firewall (Managed Firewall expert) whose policy applies to all affiliated schools is used to provide protection.

A Zscaler (cloud security service) is available as an option.

For each cantonal network, it can be defined which categories are allowed or blocked. The filters can be adapted to specific needs via a limited number of black or whitelist entries.

Swisscom Ltd operates a help desk on 0844 844 060 / ent.incident-data@swisscom.com for the individual educational networks.

Incident tickets may only be opened by the cantonal coordination office at the Swisscom Helpdesk.

The names of the contact persons for the cantonal coordination offices are kept on file at Swisscom.

The installation costs for licensed electricians to install internal school wiring for connection to the educational network are covered by the schools (or the cantons).

The schools provide suitable space and climatic conditions in their buildings for on-site Swisscom hardware (routers).

This FAQ is intended for cantonal coordination offices and, in parts, for schools that use the additional URL Filtering SecurePoP® WCS as part of the Swisscom 'Internet for Schools' initiative.

Please ask your [cantonal coordination office](#) whether and to what extent this service is available to your school.



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### 2 General questions

Can the existing public IP address still be used when changing the network?

No. When switching to another network, the IP address always changes.

Can building infrastructure be connected via SAI?

The 'Internet for Schools' sponsorship provides schools with access to the Internet for educational purposes. As no SLAs are guaranteed for Internet for Schools (bandwidth, availability), it is not possible to connect building infrastructure such as fire alarm systems, etc., to the Internet for Schools connection.

FTP servers

In rare cases it has been found that older FTP servers do not adhere to the formats defined according to RFC 959. As Swisscom's SecurePoP® checks the protocol, no data connection is established in such cases. The problem can be solved by upgrading the customer server to the current version.



### 3 Performance problems

Is there a connection to the Internet?

Run a 'ping 164.128.36.36' from the PC DOS command prompt.

If you do not receive an answer, it is not a throughput problem and the connection to the Internet is fundamentally disrupted.

Is there an explicit problem with other PCs in a) the same school b) other schools?

If not, this is a problem with this host/PC. In the case of a), the source of the error is the local network in the school or, potentially the school's LAN-I router. In the case of b), it is a key problem that must be reported to the Swisscom Helpdesk via the cantonal coordination office (KKS).

Is there a problem with individual Internet sites/hosts and/or services?

Which site/host did you access with which service (http, https, etc.)? Is there an error message? To rule out a problem with a single site, please visit multiple sites such as [www.swisscom.com](http://www.swisscom.com), [www.cisco.com](http://www.cisco.com) and assess availability and speed.

Is it an e-mail/SMTP problem?

Depending on whether the network is Level 1 or Level 2, the procedure is different and must be discussed with the cantonal coordination office (KKS). Browse to <http://www.anti-abuse.org> and enter the public IP address of the SecurePoP Firewall or the school (Level 2). Is the address registered in a blocking list, e.g. RBL/CBL, as a result of SPAM or misuse? If yes, in which one?

Is it a DNS problem?

Can you open <https://www.swisscom.com> and [https:// 195.186.210.170](https://195.186.210.170) in a browser? If only the second variant works, it is a local setting problem.



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### 4 SecurePoP® web content screening (WCS)

Which WCS categories are banned?

<https://mfw.securepop.ch> – Use a change request to request the categories to be blocked or allowed.

Where can I find a description of the WCS categories?

<https://help.zscaler.com/zia/about-url-categories>

Why is a page accessible even though it belongs to a category that is blocked?

The Internet is very dynamic. Questionable sites in particular often change their URL or domain name and are therefore temporarily incorrectly categorised. Thousands of new sites are added every week, which need to be re-categorised.