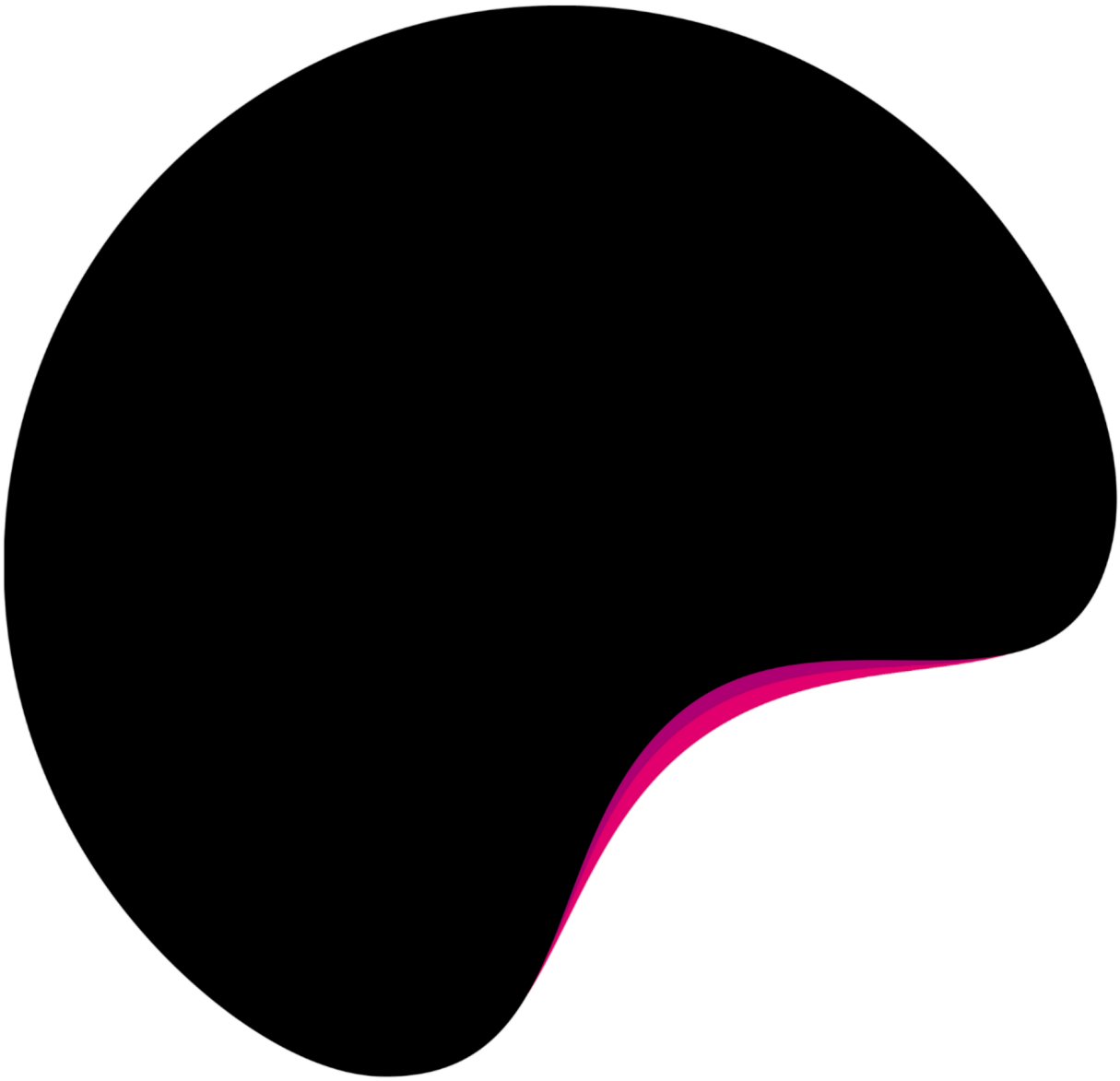

Proposal for changing the OST VPN

Striving for a more open educational environment

Author

Georgiy Chirokikh Shevoroshkin

Contributors

Fynn Gächter, Marco Kuoni, Ramon Bister

Outline

Notice

This document is incomplete and a work in progress.

Context

The OST-VPN Solution currently relies on EntraID 9 (SAMLv2 6) authentication for Cisco SSL-VPN. Users can connect to the VPN 8 through the recommended cisco secure client [1] or any compatible client supporting the AnyConnect protocol, such as openconnect [2] .

Argumentation

This Proposal is based on the “Proposal for changing the OST Auth solution”. Therefore, all of the talking points regarding open- and closed-source software apply to the arguments for an alternative VPN implementation as well.

Multiple instances of students or professors asking for an alternative, open-source solution have occured, namely Andreas Steffen, creator of strongswan [3] , proposing its implementation for the OST VPN or Raphael Das Gupta, asking for an open-source alternative for Microsoft Authenticator [4] .

Proposal

Strongswan offers itself as an advantageous alternative, being developed by Andreas Steffen, a former Professor at OST. Moreover, the IKEv2/IPSec Protocol outperforms [5], [6] alternatives such as openvpn [7] or wireguard [8] .

Supporters

Many thanks go out to all of the honorable supporters of this project, which include

Name	***Email***
Carina Schmitt	carina.schmitt@ost.ch
Claude Bregenzer	claude.bregenzer@ost.ch
Edoardo Balsamo	edoardo.balsamo@ost.ch
Elia Schenker	elia.schenker@ost.ch
Florian Bruhin	florian.bruhin@ost.ch
Fynn Gächter	fynn.gaechter@ost.ch
Gioele Petrillo	gioele.petrillo@ost.ch
Giuliano Gianola	giuliano.gianola@ost.ch
Jasmin Fässler	jasmin.faessler@ost.ch
Lukas Hunziker	lukas.hunziker@ost.ch
Marco Kuoni	marco.kuoni@ost.ch
Nathanael Fässler	nathanael.faessler@ost.ch
Nico Michael Rudolph	nico.rudolph@ost.ch
Oliver Clerc	oliver.clerc@ost.ch
Raphael Das Gupta	raphael.dasgupta@ost.ch
Samuel Meuli	samuel.meuli@ost.ch
Simon Böni	simon.boeni@ost.ch
Stefan F. Keller	stefan.keller@ost.ch
Ramon Bister	ramon.bister@ost.ch

Table 1: Supporters

Glossary

OSS	Open Source Software
OER	Open Educational Resources
OTP	One Time Password
FOSS	Free and Open Source Software
SSO	Single Sign-On
SAMLv2	Security Assertion Markup Language 2.0
SSL	Secure Sockets Layer
VPN	Virtual Private Network
EntraID	Microsoft Entra ID (formerly known as Microsoft Azure Active Directory or Azure AD)
IAM	Identity and Access Management
IT	Information Technology

Bibliography

[1] D. Tobler, “VPN OST.” Accessed: Oct. 25, 2025. [Online]. Available: https://wiki.ost.ch/display/public/IOW/VPN+OST

[2] C. Lubomir, “Openconnect.” Accessed: Oct. 25, 2025. [Online]. Available: https://github.com/openconnect

[3] The strongSwan Team, “Strongswan.” Accessed: Nov. 03, 2025. [Online]. Available: https://strongswan.org/

[4] R. D. Gupta, “OST wiki Comment: Microsoft Authenticator Alternative.” Accessed: Nov. 03, 2025. [Online]. Available: https://wiki.ost.ch/display/public/IOW/Multi-Faktor-Authentifizierung+mit+Microsoft+Authenticator#comment-section-title

[5] C. T. J. Xiang, S. Aslam, and A. Tan, “Performance Evaluation of VPN Protocols in Live and Dynamic Network Environments,” in *Selected Proceedings from the 2nd International Conference on Intelligent Manufacturing and Robotics, ICIMR 2024, 22-23 August, Suzhou, China*, W. Chen, A. PP Abdul Majeed, A. H. Ping Tan, F. Zhang, Y. Yan, Y. Luo, L. Huang, C. Liu, and Y. Zhu, Eds., Singapore: Springer Nature Singapore, 2025, pp. 420–429.

[6] F. Pohl and H. D. Schotten, “Secure and Scalable Remote Access Tunnels for the IIoT: An Assessment of openVPN and IPsec Performance,” in *Service-Oriented and Cloud Computing*, F. De Paoli, S. Schulte, and E. Broch Johnsen, Eds., Cham: Springer International Publishing, 2017, pp. 83–90.

[7] OpenVPN, “Self-Hosted VPN: Access Server | OpenVPN.” Accessed: Nov. 03, 2025. [Online]. Available: https://openvpn.net/access-server/

[8] J. A. Donenfeld, “WireGuard: fast, modern, secure VPN tunnel.” Accessed: Nov. 03, 2025. [Online]. Available: https://duckduckgo.com/?q=wireguard&ia=web

Illustrations

Tables