Proposal for changing the OST-VPN 2FA

Context

The OST-VPN Solution currently relies on Azure AD 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] . Azure AD, developed by Microsoft, facilitates integration with the broader Microsoft ecosystem.

Argumentation

Educational institutions have a responsibility to provide information in a neutral and non-discriminatory manner, thereby establishing a standart for OER 2 , open research and the free exchange of information [3] . This responsibility can only be fulfilled when accessibility for all is guaranteed through the implementation of FOSS 4 [4] .

While the management of services via Azure AD may offer conveniences, the reliance on a multi-trillion-dollar corporation's closed-source software presents a multitude of risks and worries particularly in, but not limited to, educational and research contexts. These risks encompass:

- Vendor Lock-In: Dependency on proprietary platforms limits flexibility and adaptability. [5]
- Incompatibility with Legacy Hardware: Potential exclusion of users employing older technologies. [6]
- Security Concerns: Heightened risks associated with centralized control and data management. [7]
- Licensing Costs: Ongoing fees may strain institutional budgets and resources. [3], [7]
- Ethical Considerations: Dependence on commercial entities raises questions about corporate governance in educational settings. [8]

Moreover, the monopolistic behavior and tracking practices associated with global corporations, in this case Microsoft, pose significant risks to security [9] , privacy [10] and democratic ideals [11] . Past incidents have highlighted the potential ramifications of these behaviors in both individual and institutional contexts.

Fortunately, for client authentication, the Microsoft Authenticator app is not required, though it is recommended [1] . The flexibility enables the use of provider- and device-agnostic OTP 3 software, promoting inclusivity for individuals who choose FOSS out of ethical or personal reasons. However, several aspects of the current OST infrastructure still restrict this possibility, notably in areas such as email and VPN authentication.

Proposal

Transitioning the entire Microsoft-based ecosystem at OST University to a fully open-source model is undoubtedly a monumental undertaking. However, introducing the capability to connect to the VPN through alternative methods beyond AzureAD would represent a significant first step in the right direction. This change would support inclusivity and align with the institution's commitment to openness and accessibility.

By integrating additional authentication options, one can reduce dependency on proprietary technologies and mitigate the associated risks. This effort not only promotes ethical practices but also empowers users to engage with the services in a manner that respects their preferences and needs.

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

Azure AD   Azure Active Directory

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