



Authorization-Enhanced Mail System—Draft

Igor Zboran
izboran@gmail.com

Abstract—Electronic mail (email) is the most pervasive form of business information exchange. Email is often used not only as an interpersonal communication tool, but also as the default choice to send files. In this paper the Correlated Authorization [1] mail trust framework—built on top of User-Managed Access (UMA) [2, 3] and OAuth 2.0 [4] protocols—is proposed to overcome the data storage, access control and data transfer limitations of the current mail system.

Today, outgoing mail is typically transferred from the source system to the destination system as a single text-encoded file using Simple Mail Transfer Protocol (SMTP). SMTP is a more than 40-year-old protocol that emerged long before World Wide Web became popular. Despite the fact that SMTP has been updated, modified and extended multiple times to increase security and efficiency, it still lags behind modern web-based protocols. We propose to mirror the existing email ecosystem by creating a new secure and scalable web-based communication infrastructure. The web-based data transfer in combination with a decentralized access management significantly leverages email security and enhances mail system utilization.

REFERENCES

- [1] I. Zboran, “Correlated Authorization” GitHub repository <https://github.com/umalabs/correlated-authorization/raw/main/Correlated-Authorization.pdf>.
- [2] E. Maler, M. Machulak, J. Richer, and T. Hardjono, “User-Managed Access (UMA) 2.0 Grant for OAuth 2.0 Authorization,” Internet Engineering Task Force (2019), <https://docs.kantarainitiative.org/uma/wg/rec-oauth-uma-grant-2.0.html>.
- [3] E. Maler, M. Machulak, J. Richer, and T. Hardjono, “Federated Authorization for User-Managed Access (UMA) 2.0” Internet Engineering Task Force (2019), <https://docs.kantarainitiative.org/uma/wg/rec-oauth-uma-federated-authz-2.0.html>.
- [4] E. D. Hardt, “The OAuth 2.0 Authorization Framework,” IETF RFC 6749 (Informational), 2012, <http://tools.ietf.org/html/rfc6749>.