

Overall, the protection of data using information flow control (IFC) technology implementing faceted values is a novel approach, and has been implemented as a code library, which increases success in integrating it in existing applications. So, given the above, the key benefit of this solution is it ensures that the code “executing at a particular level only outputs data at the same security level, and replaces sensitive data from higher security levels with “default” values” (McCall et al., 2022), while maintaining practicality and usability for developers. Since the Schmitz et al. (2016) paper, a more recent paper by the authors Schmitz et al. (2018) presents a more evolved version of the earlier solution. It uses Faceted Secure Multi Execution (FSME) which provides an additional layer of security. Generally, implementation of faceted values offers better performance in securing data during information flow, and the addition of SME yields even greater advantages. The disadvantage of faceted values is that they do not necessarily prevent a security breach, they just conceal sensitive data, and as a consequence, data leakage may still happen (Kalenda, 2017).

References:

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