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Messagerie sécurisée avec OpenPGP

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OpenPGP

Protocole d’échange de messages chiffrés

Gestion d’une identité numérique

- Toile de confiance

Authentification des messages

Décentralisé

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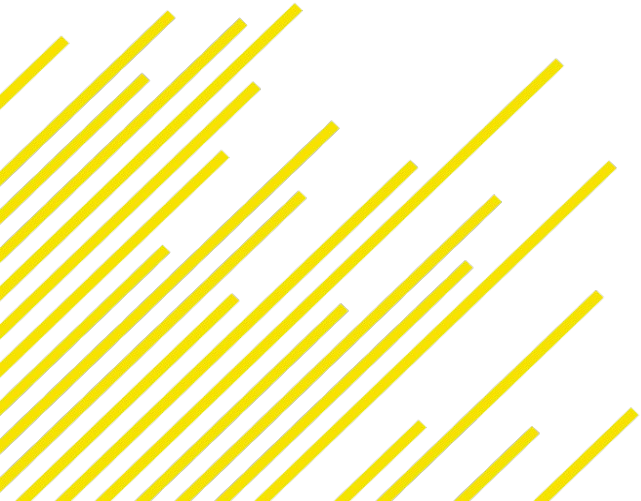
Problématique

Comment authentifier un utilisateur et sécuriser les messages dans une application ?



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Sommaire

Les concepts OpenPGP

Authentification d’un utilisateur

Chiffrement et déchiffrement des messages

Implémentation et démo

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Sommaire

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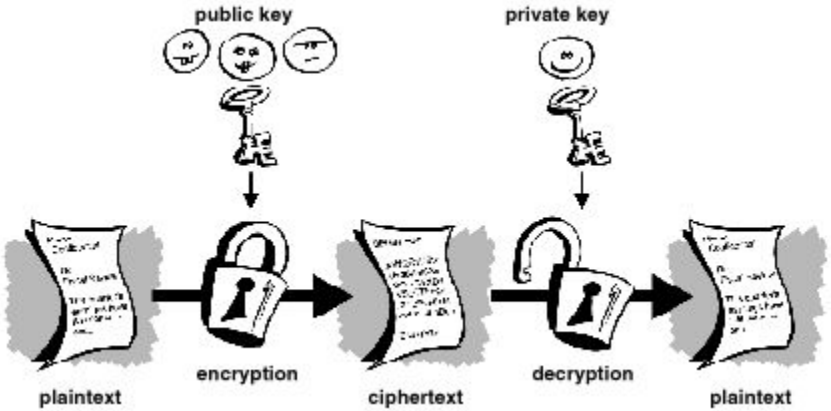
Chiffrement asymétrique

Clef publique / clef privée



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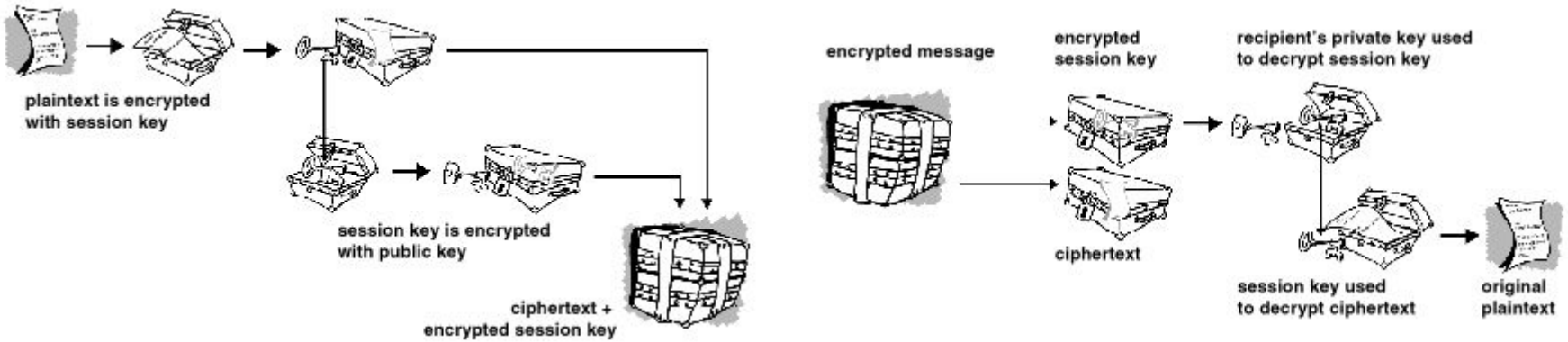
OpenPGP, PGP, GnuPG ?

OpenPGP : standard de chiffrement/déchiffrement RFC 4880

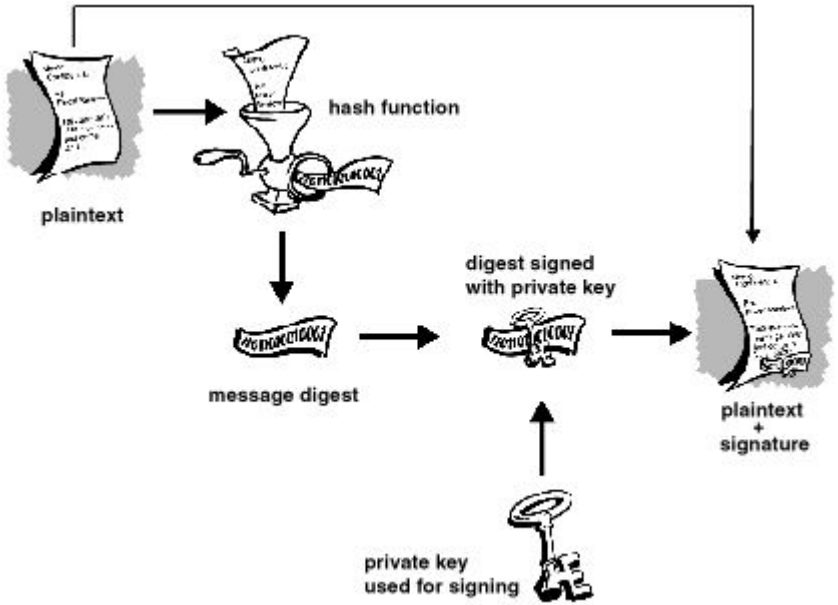
PGP : implémentation fermée d'OpenPGP

GnuPG : implémentation ouverte d'OpenPGP

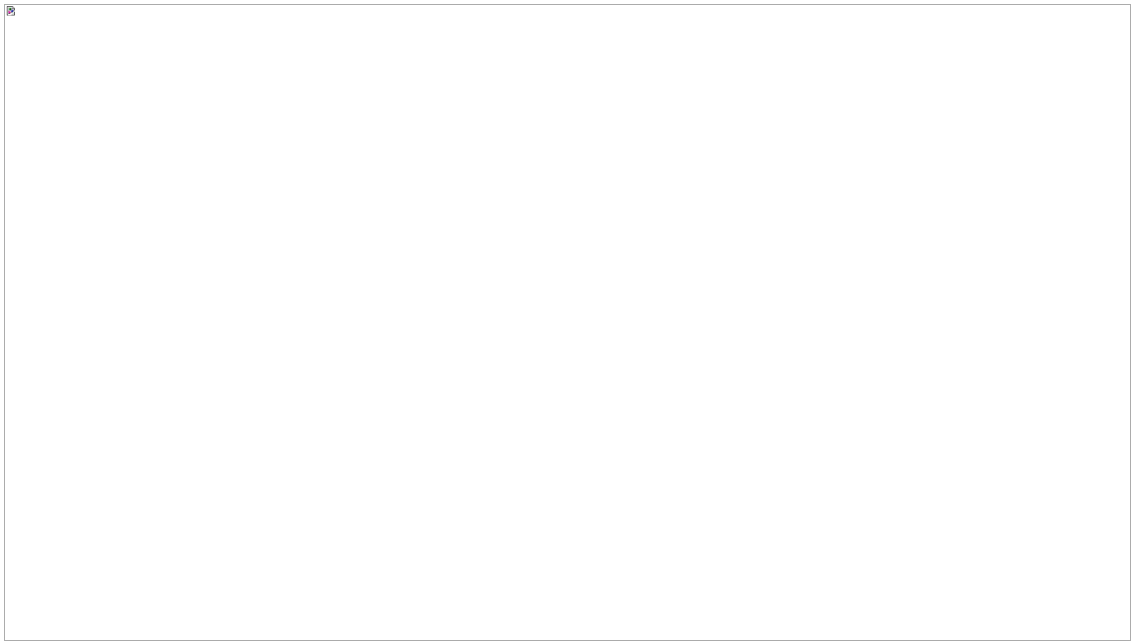
Fonctionnement OpenPGP



Signature des messages



Toile de confiance



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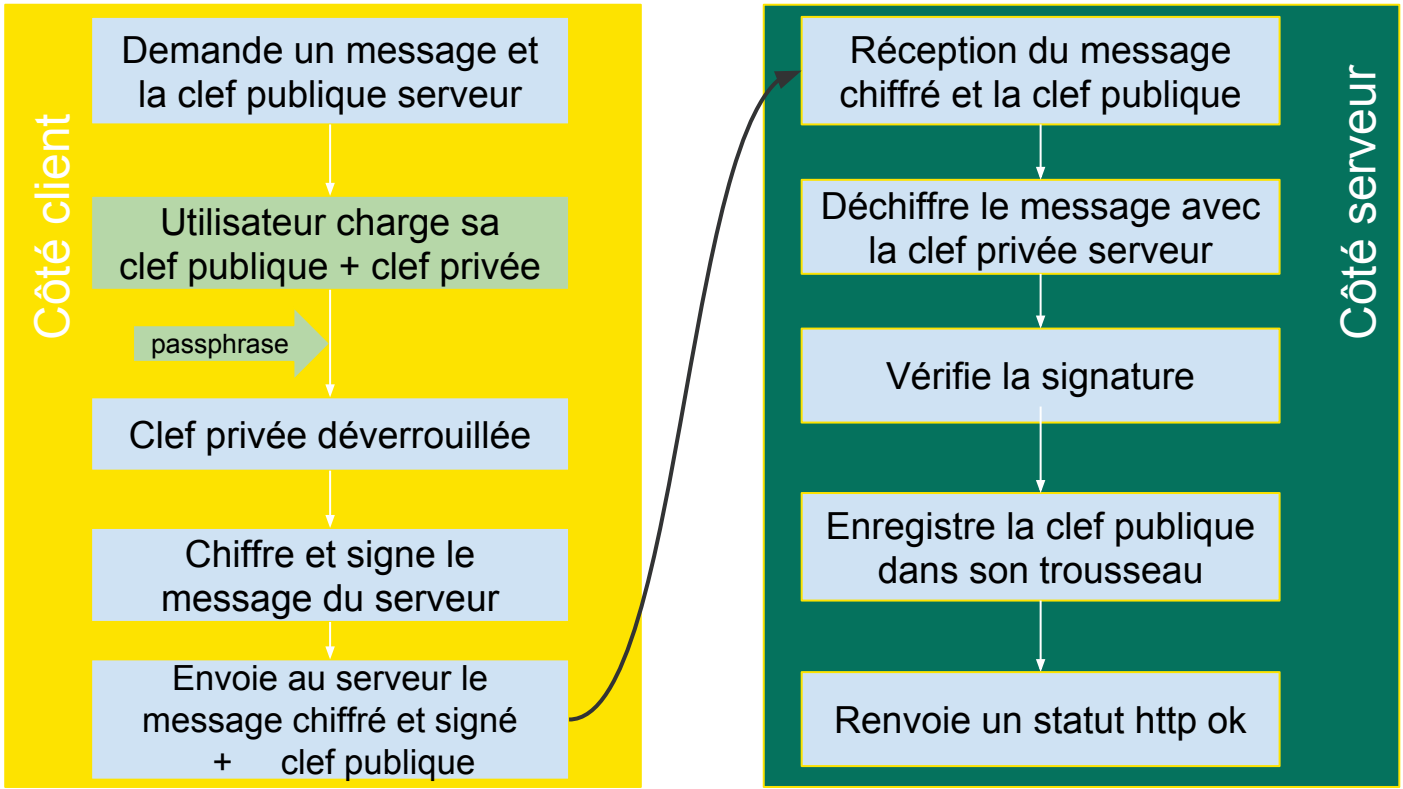
Séquence d'inscription



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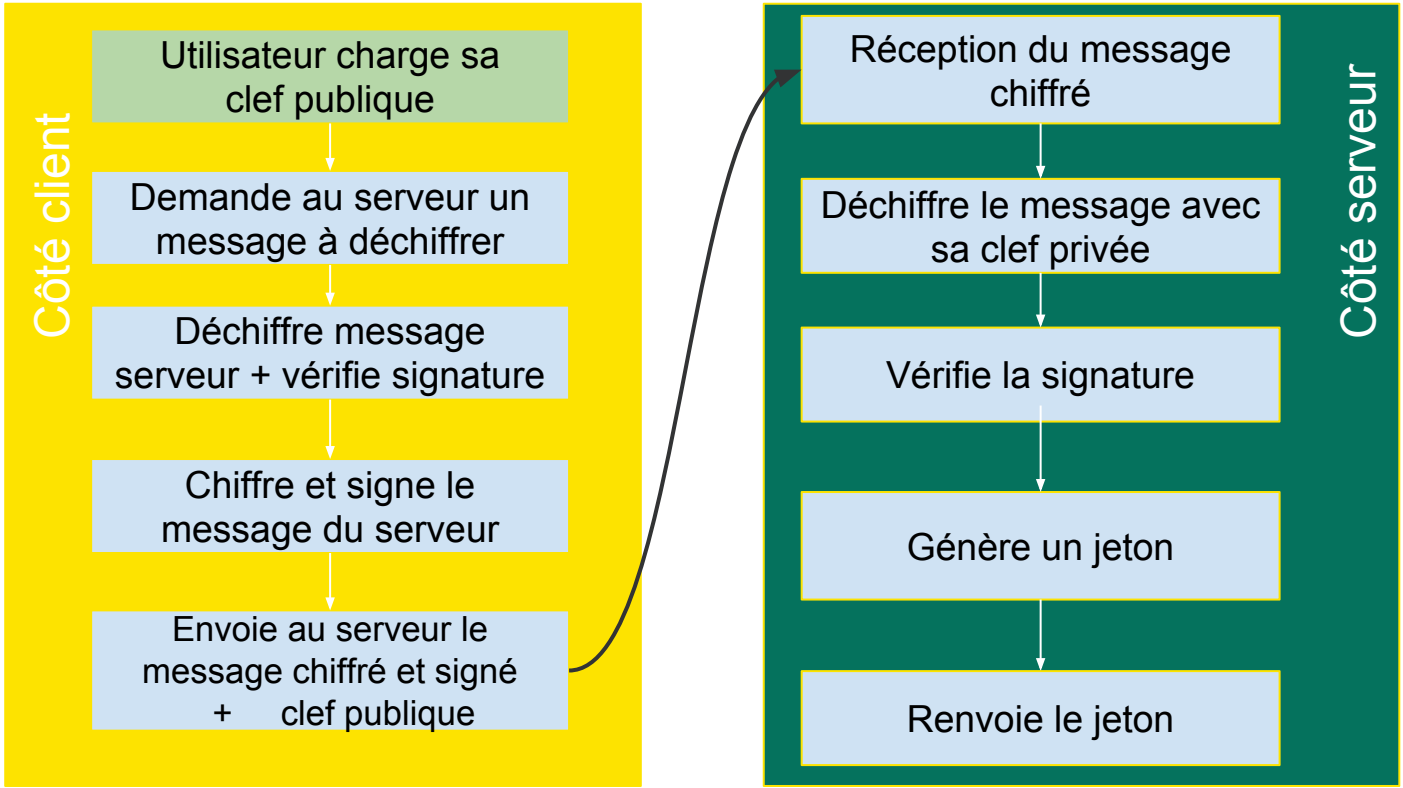
Séquence d'authentification



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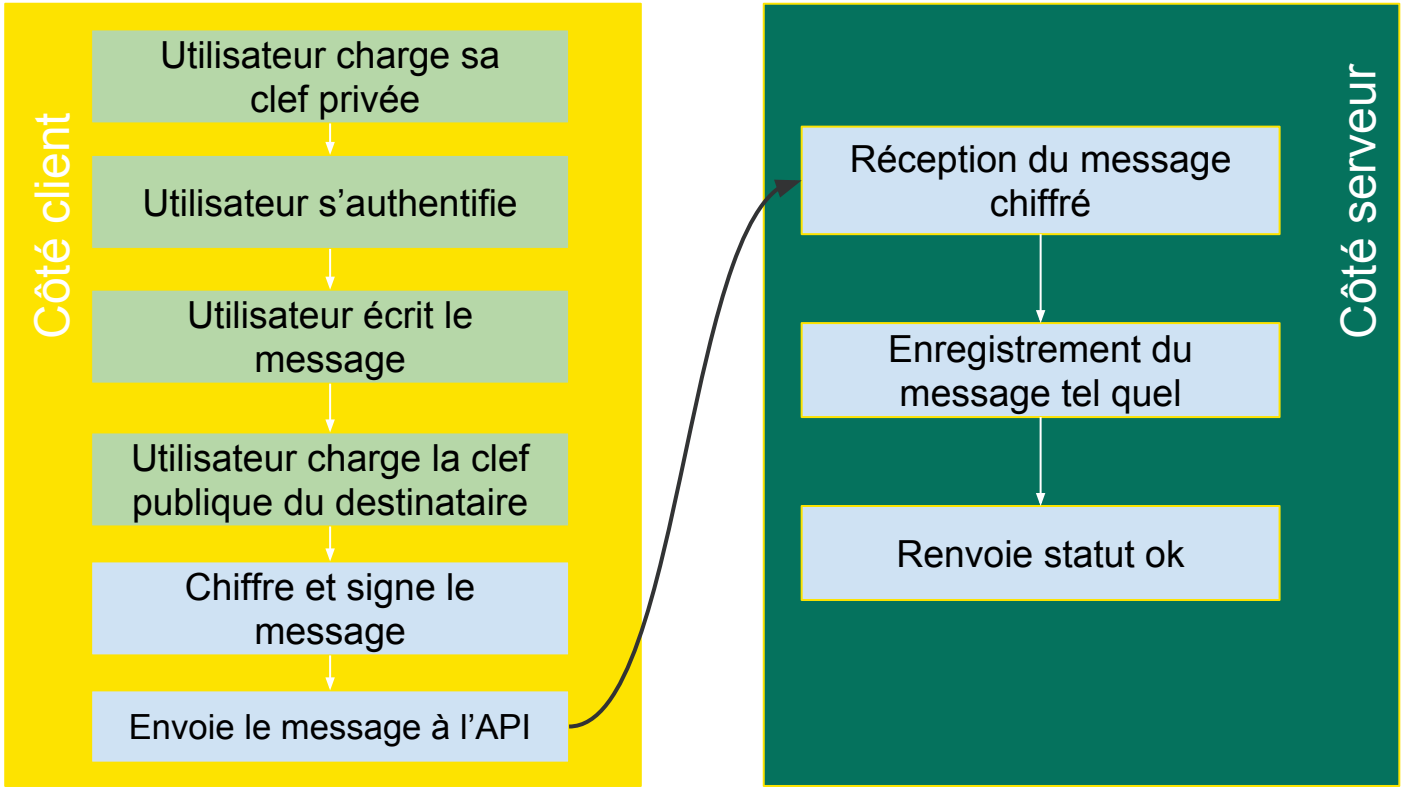
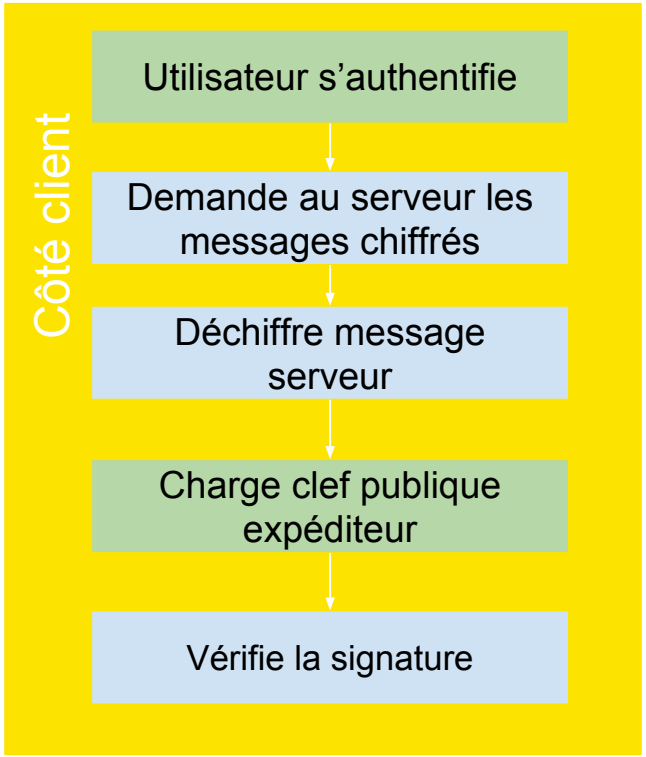
Enregistrer un message



Lecture des messages



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Implémentation

Côté client : OpenPGP.js

Côté serveur : Symfony 3 + extension PHP GnuPG + Redis

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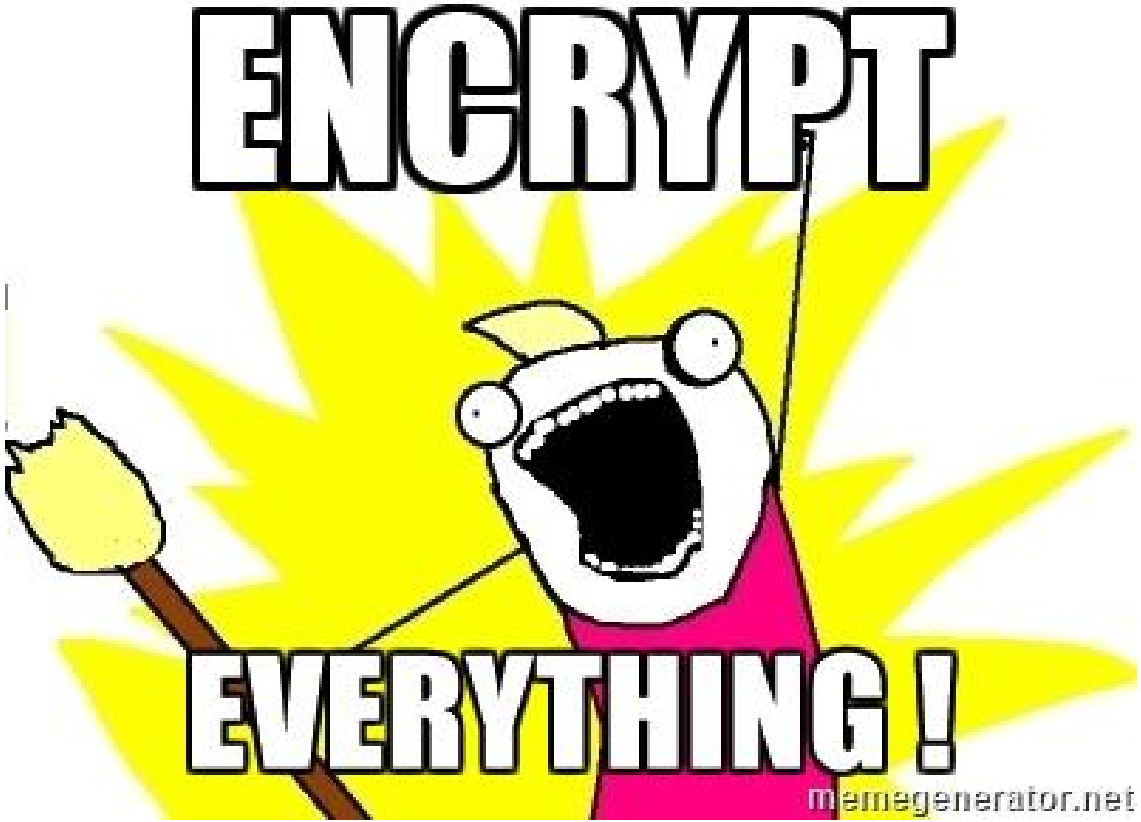
Démo

https://openpgp.piaf.eu

Conclusion

Concept expérimental

Découverte du fonctionnement OpenPGP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Références

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https://github.com/openpgpjs/openpgpjs
http://php.net/manual/fr/book.gnupg.php
https://cran.r-project.org/web/packages/gpg/vignettes/intro.html#web_of_trust