ISOC-CH Annual General Assembly: Privacy considerations and encryption

Implementing privacy by pretty Easy privacy's (p≡p) protocols and tools for mass encryption

Hernâni Marques (@vecirex),
p≡p foundation (@pEpFoundation)

hernani.marques@pep.foundation
3173 3E0C 598D 3A1C F709 55D6 CB57 3865 2768 F7E9

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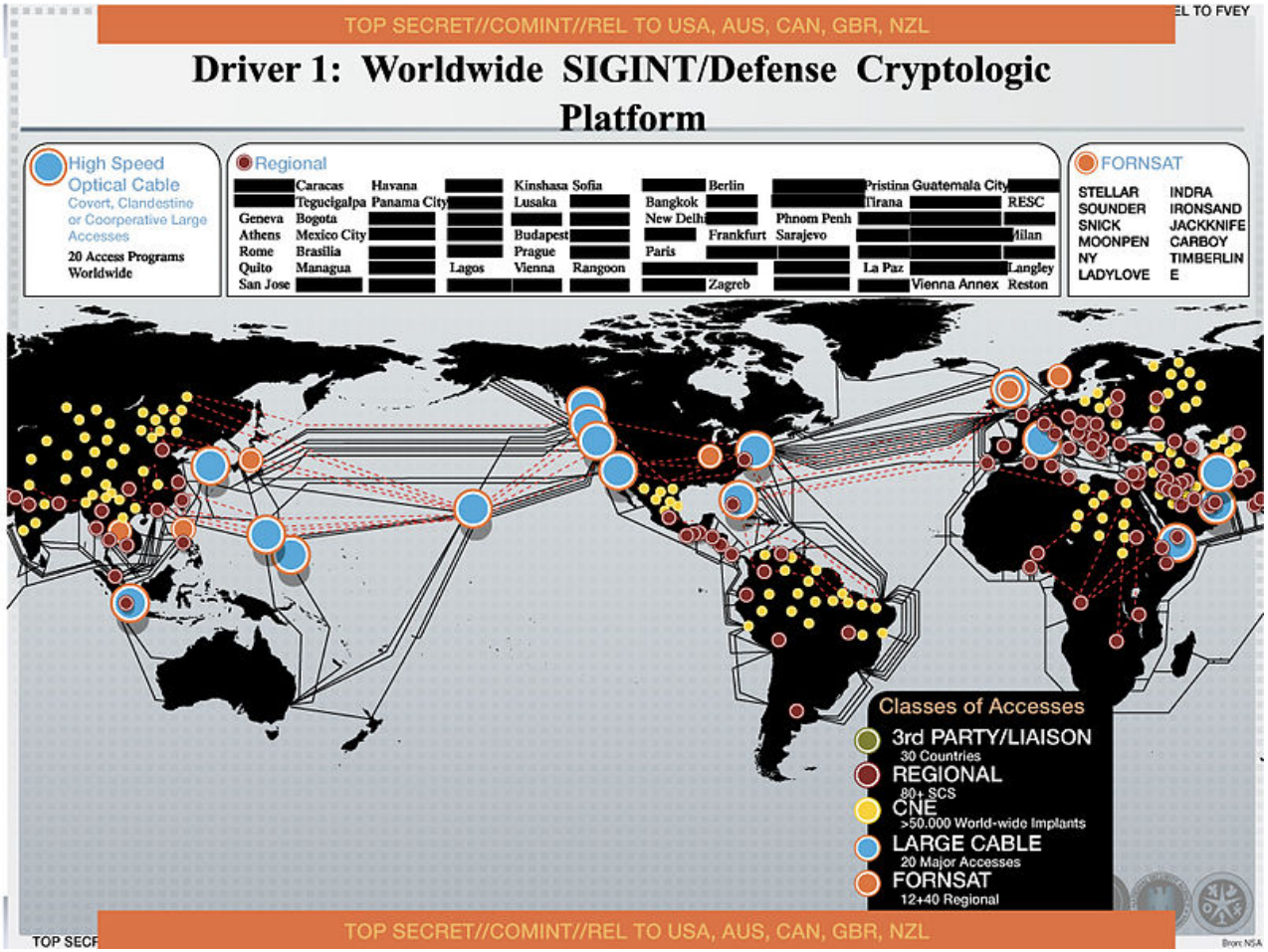
Overview for the next 15mins

1. Motivation to act
2. Privacy situation in CH
3. What p≡p is
4. p≡p & OpenPGP: examples
5. To be done
6. Commmunity work
7. Your turn

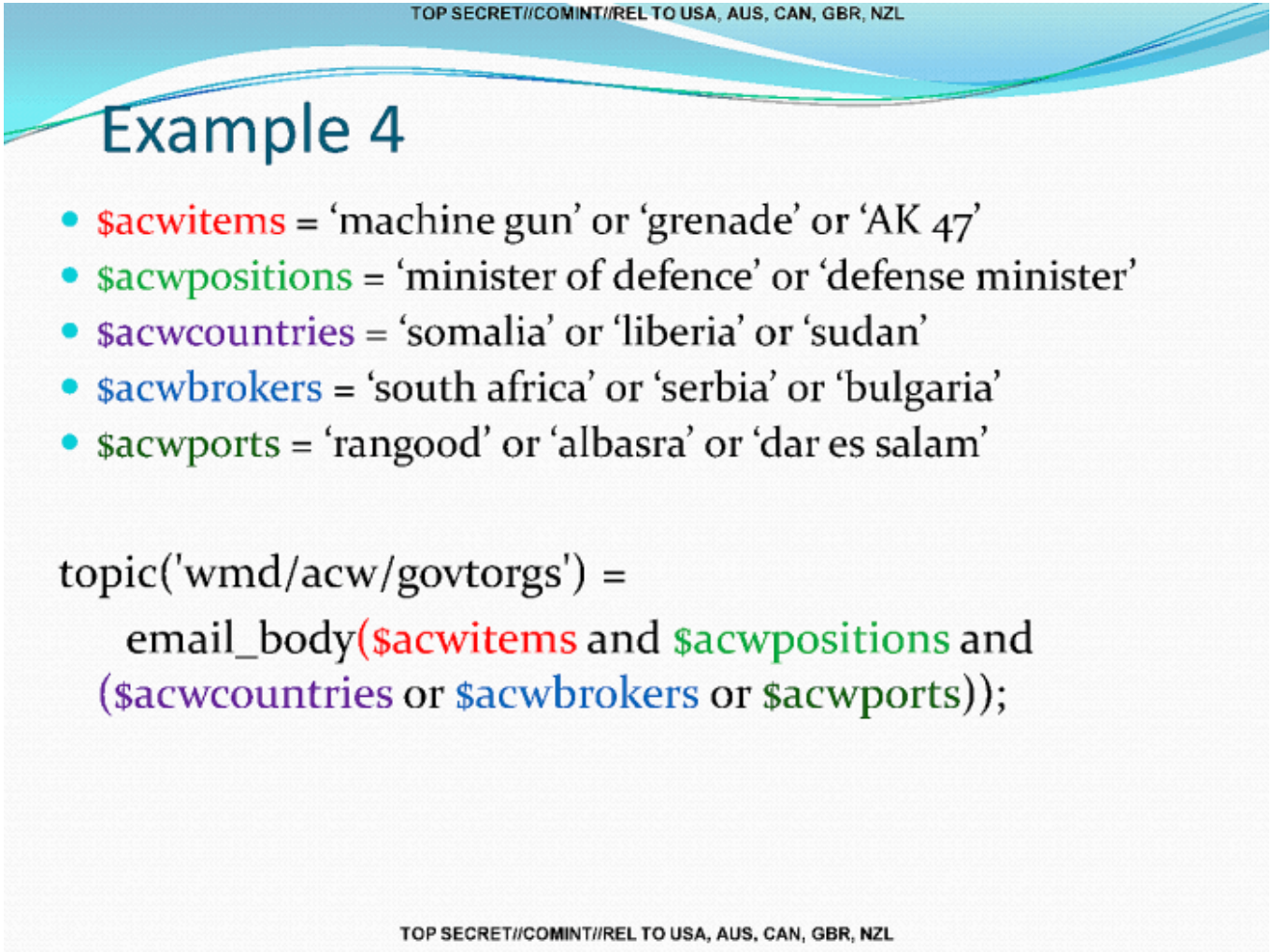
The mindset we face

In a general global context

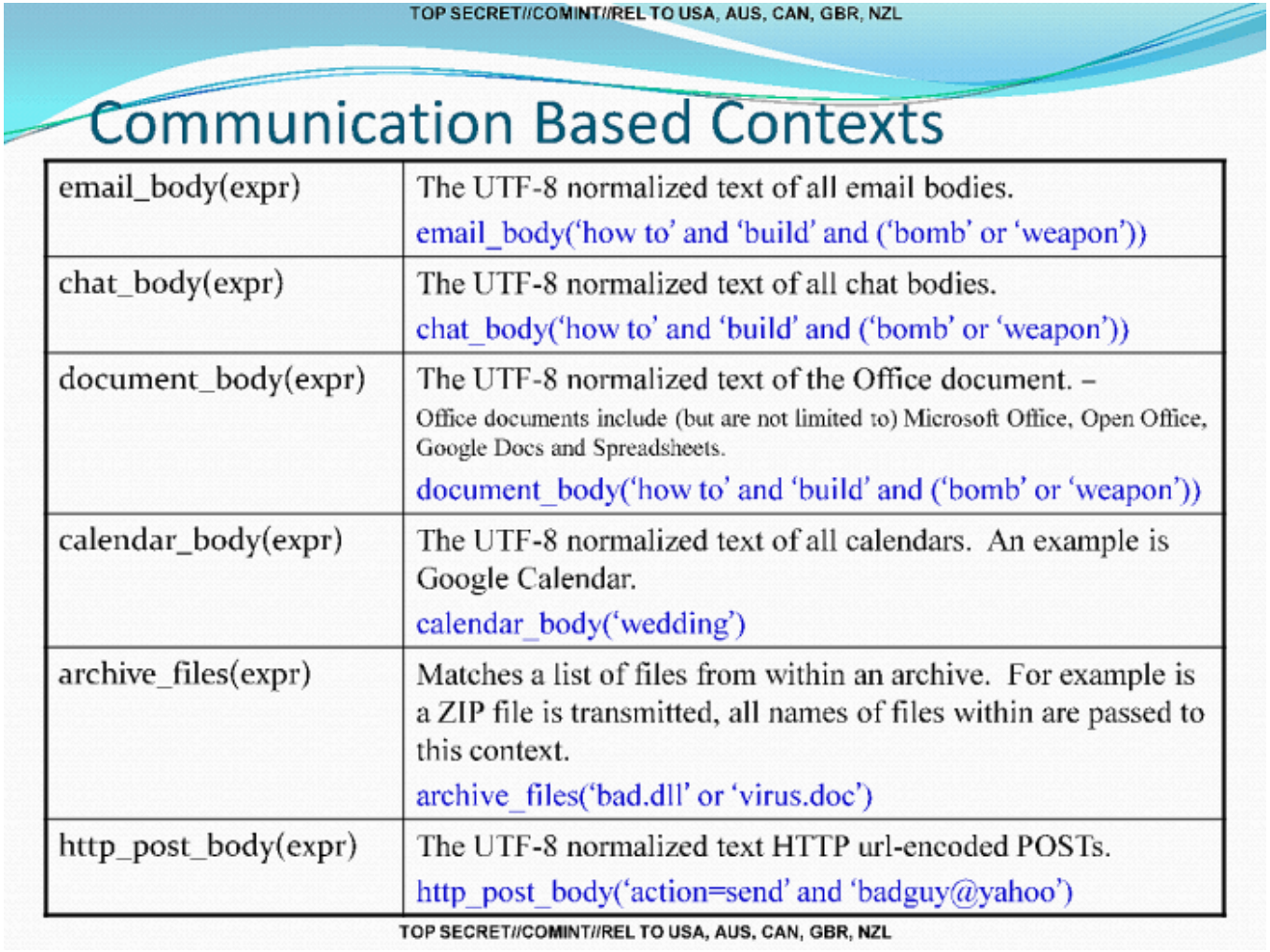


In a general (Swiss) local context

In an email context



In the context of written digital communications



TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, NZL

Communication Based Contexts

email_body(expr)	The UTF-8 normalized text of all email bodies. email_body('how to' and 'build' and ('bomb' or 'weapon'))
chat_body(expr)	The UTF-8 normalized text of all chat bodies. chat_body('how to' and 'build' and ('bomb' or 'weapon'))
document_body(expr)	The UTF-8 normalized text of the Office document. – Office documents include (but are not limited to) Microsoft Office, Open Office, Google Docs and Spreadsheets. document_body('how to' and 'build' and ('bomb' or 'weapon'))
calendar_body(expr)	The UTF-8 normalized text of all calendars. An example is Google Calendar. calendar_body('wedding')
archive_files(expr)	Matches a list of files from within an archive. For example is a ZIP file is transmitted, all names of files within are passed to this context. archive_files('bad.dll' or 'virus.doc')
http_post_body(expr)	The UTF-8 normalized text HTTP url-encoded POSTs. http_post_body('action=send' and 'badguy@yahoo')

TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, NZL

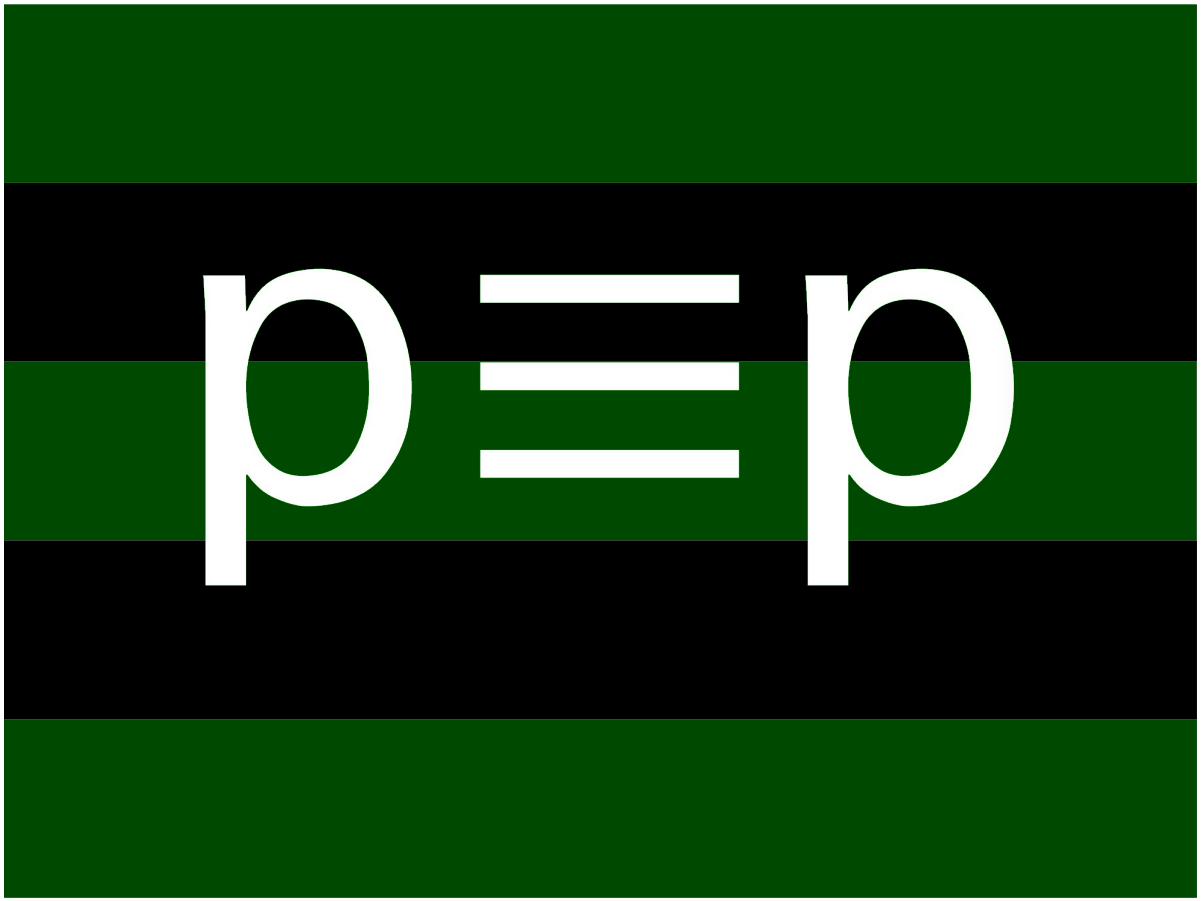
Data retention for LI purposes: BÜPF / LSCPT

- **Today:** Data retention of 6 months for **access providers** (including mobile phones).
- **2018**: Data retention of 6 months *additionally* for **service providers**; private providers of Internet access (firms, schools, associations etc.) must give at least access to their infrastructure, such that the state can install implants . . .
- **Sep 2017:** Also the Swiss secret service (NDB) can access all data accessible by the BÜPF law, i.e. (mis)using law-enforcement. (Today the NDB can “just” query through BÜPF / LSCPT law whom a hard selector belongs to (e.g., a phone number or IP address)).

More Mass Surveillance & Data retention for the NDB: ZNDG / VEKF / NDG

- **Before 2013**: *Onyx* was built as of 1999 illegally and passed in parliament under the military budget as “multi-purpose building” for CHF 45 millions. *Onyx* works in full operation since 2005 – for 7 years (!) illegally.
- **Today**: As of 2012 legal basis (ZNDG / VEKF) was created for *Onyx* to operate: data from mass surveillance on SAT-based communications can be retained for 1.5 (content) and 5 (!) years (metadata).
- **Sep 2017:** The secret service law NDG *additionally* introduces cable-based mass surveillance. In the corresponding executive order NDV, once again, the same data retention rules are imposed: 1.5 and 5 years for content and metadata, respectively.

p≡p = pretty Easy privacy



p≡p is . . .

- a set of rules describing how to carry out encryption automatically for the user, i.e. a protocol.
- a cross-platform abstraction (with an actual reference implementation) to easily use crypto tools already available (like GnuPG).
- designed to encrypt digital written communications, with the starting point of email.
- built with the idea of a unified inbox in mind, so that peers can reach their friends and colleagues in one place (app).
- meant to encrypt automatically whenever and with whatever (most privacy-enhancing) crypto standard available, hence the slogan *Privacy by Default*.
- hassle-free and zero-touch when used in end-user applications.

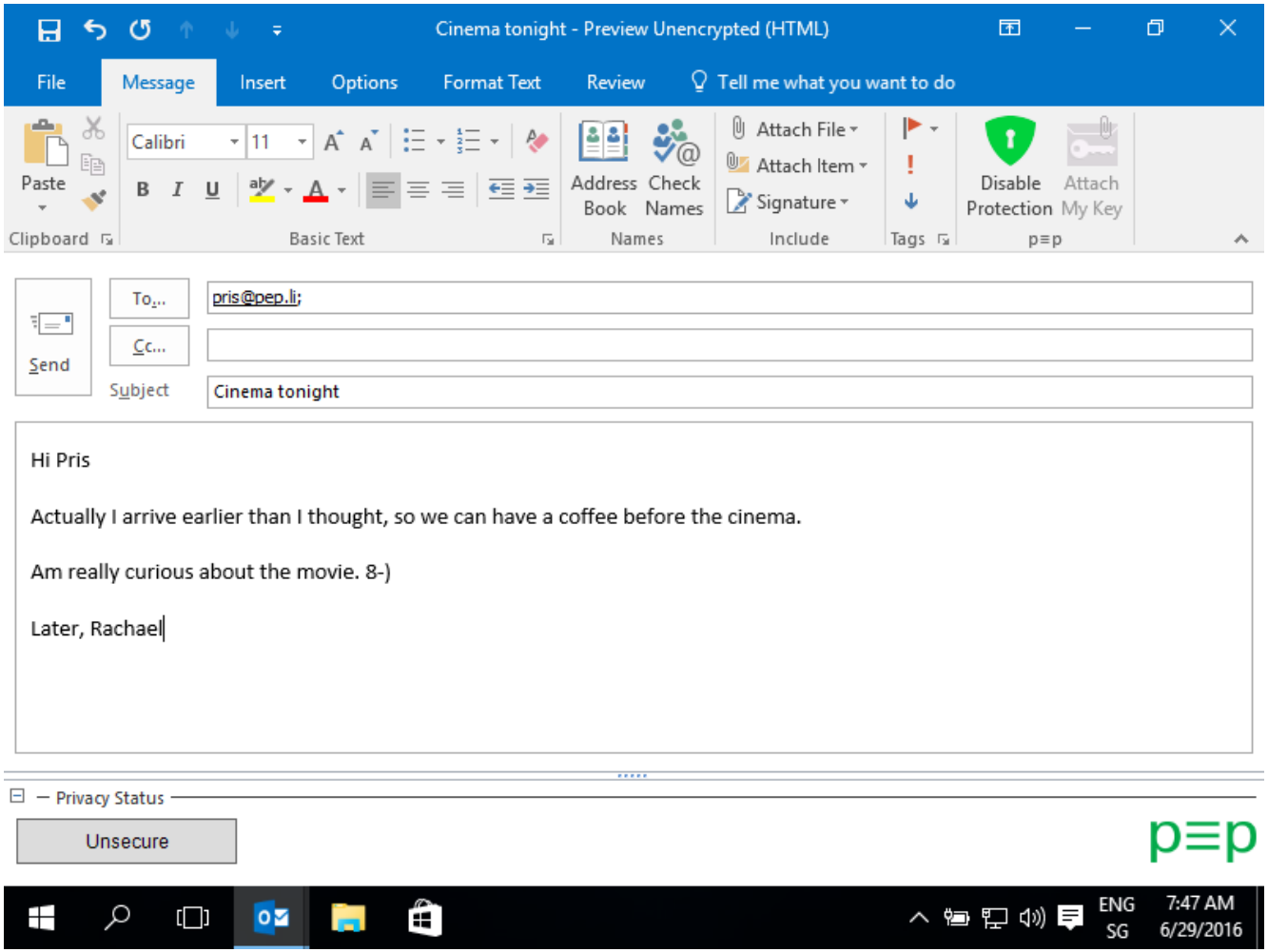
p≡p is **not** . . .

- yet another crypto tool with closed (small) user base.
- a (centralized) platform provider.
- a crypto project nor implementing any own crypto.
- replacing any existing crypto tool per se.
- yet another tool just for encrypting email: that's just the beginning and not the end.
- storing any user data and profiles.
- specific to any service provider.
- imposing any restrictions on identity choices (like phone numbers, specfic email addresses or other URIs).
- trading off privacy for security – privacy has always highest priority.

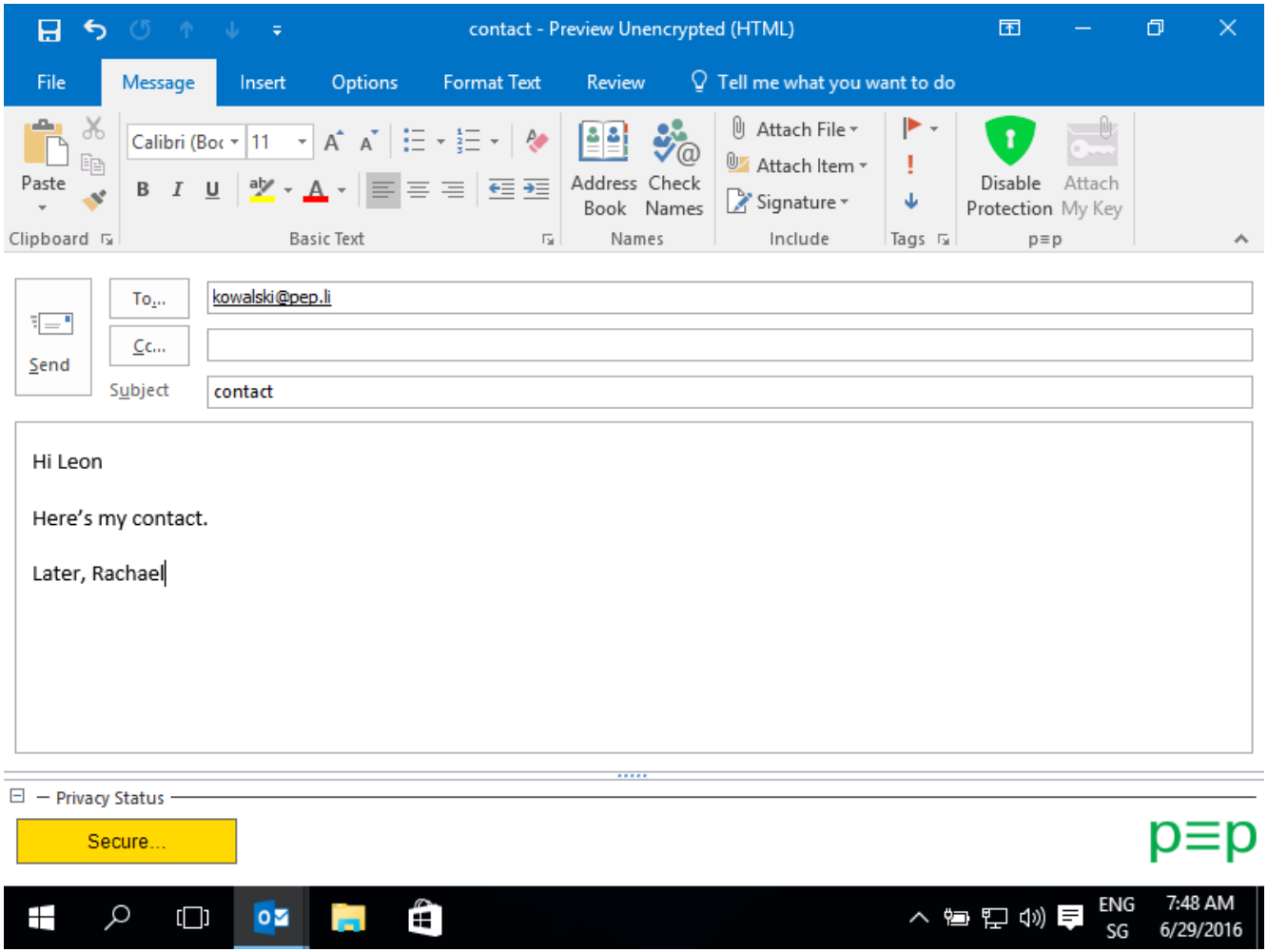
p≡p differences to current OpenPGP MUAs

- Keyservers are never used by default to prevent leakage of a peer's social graph (by signings and queries) and MITM attacks (re-encyption).
- The sender's public key is attached by default.
- The subject field gets encrypted by default (by moving it into the body).
- Instead of fingerprints, *Trustwords* (16-bit mappings of 4-digit hexablocks to words) are used.
- p≡p has a rating system and communicates (graphically) a *Privacy Status* with traffic lights semantics to the user.

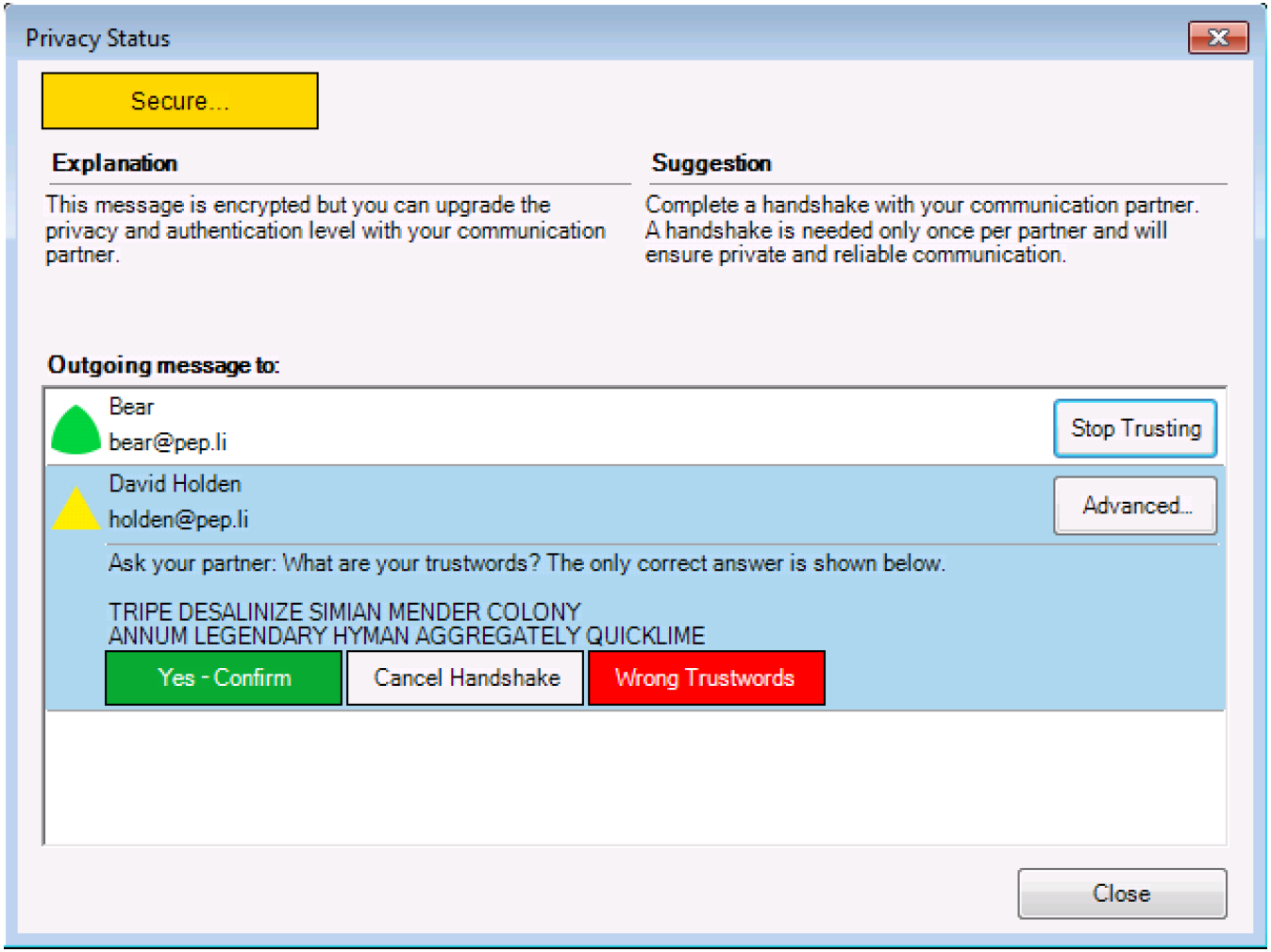
p≡p for Outlook: first email (unsecure)



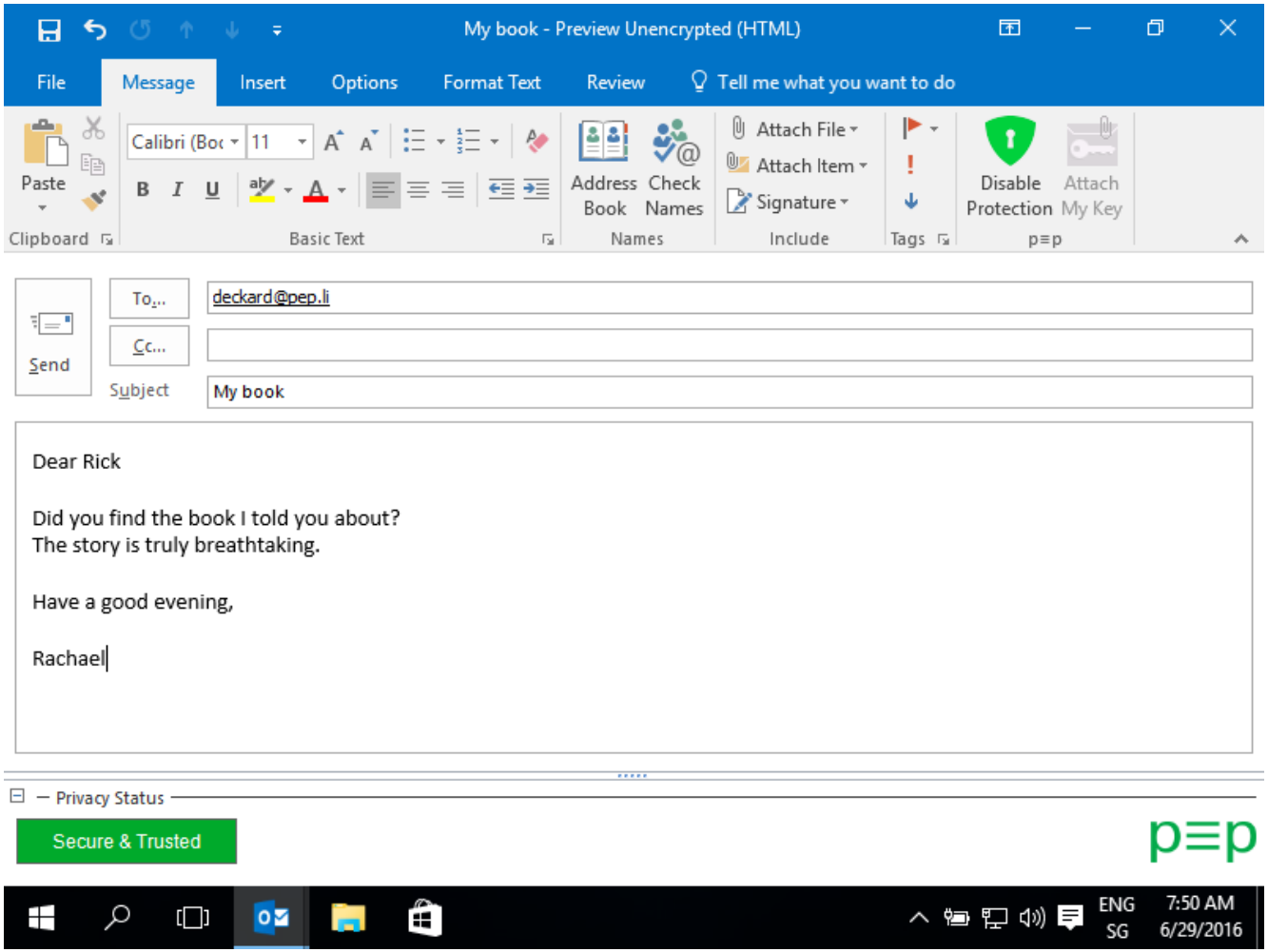
p≡p for Outlook: second email (secure)



p≡p for Outlook: Handshaking process



p≡p for Outlook: third email (secure & trusted)



- Fix last bugs of the *KeySync* protocol to build device groups of a user's owned devices (i.e., read encrypted messages across devices).
- Add more message transports to p≡p engine (e.g., XMPP/OTR and as of p≡p 2.0 GNUnet).
- Implement decentralized (cloudless) synchronization of calendar and contact data through the message transport channel.
- Make p≡p an Internet standard to allow for widespread acceptance and interoperability.
- Help fight mass surveillance, also politically!

p≡p foundation: for trust, security and community work

- The p≡p foundation is Swiss-based, tax-free (non-commercial) and controlled by privacy and digital (human) rights activists.
- The foundation holds ownership (under the GNU GPL v3) on p≡p's core (engine and adapters / bindings) and trademarks.
- We support community projects to implement p≡p and get their implementations (independently) code-audited: both support types can be of financial type.
- We also do political work and are free to support other FLOSS projects in the area of restoring Privacy, Freedom of Information and Free Speech (no strict p≡p relation needed).
- We actively collaborate with the Enigmail (on Enigmail/p≡p) & GNUnet projects and **now** with ISOC Switzerland (ISOC-CH) – focussing on the open standardization of p≡p's protocols through participation in the Internet community (IETF).

Questions