PersoSim – simulate your eID card

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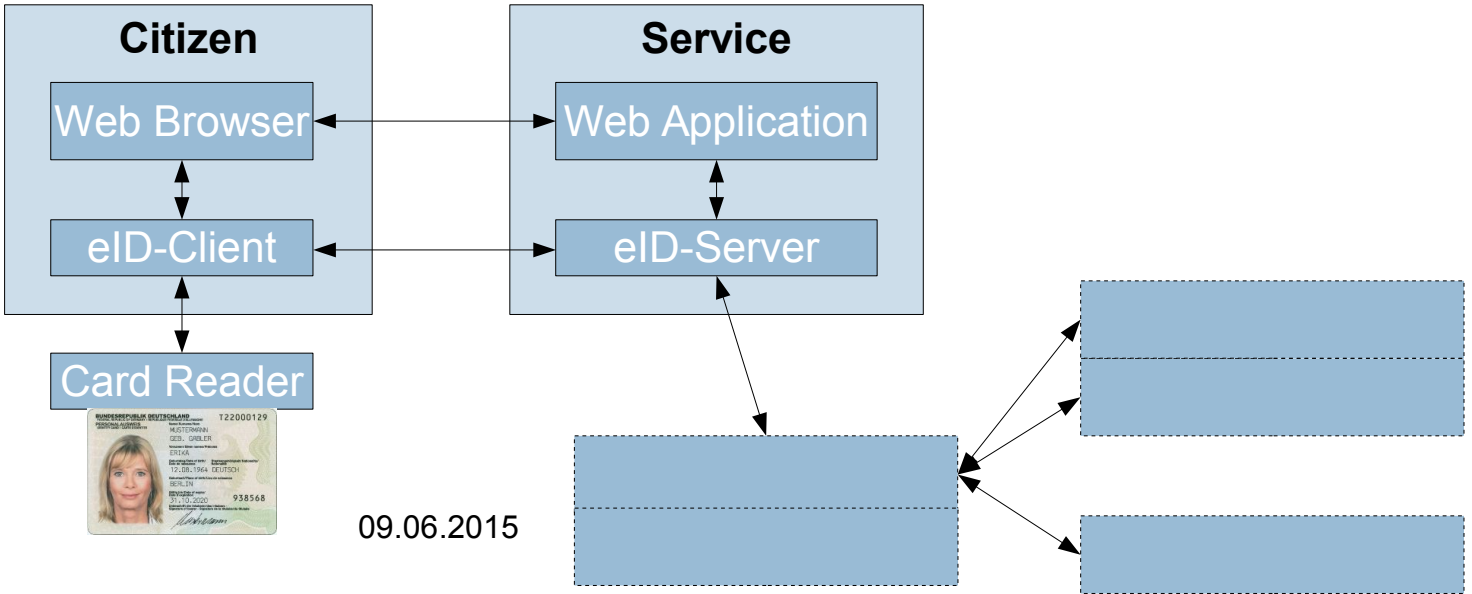
PersoSim

- Common project of
  - Bundesamt für Sicherheit in der Informationstechnik (BSI)
  - HJP Consulting GmbH

- Goals
  - Provide an example implementation of crypto/access protocols for eID
  - Simulate chip functionality (Layer 6/7)
  - Replace test cards by software simulation
  - Testbed for new features

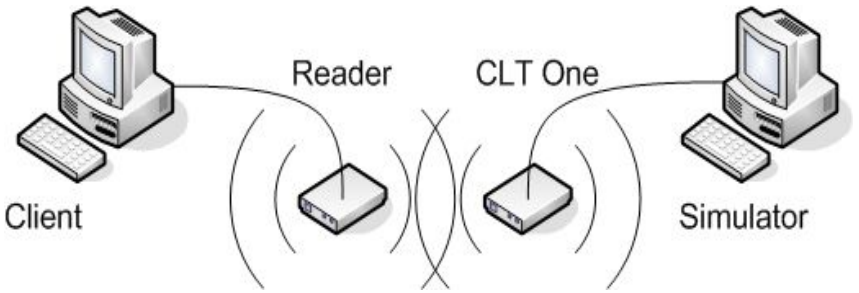
Current Situation
– Integration Testing –

- eID scheme consists of/utilizes many components
  - Browser, Application, eID Client, eID Server, ...
  - For most of them several implementations / different vendors
- Currently: Integration tests done with test cards
  - Many different flavours
    - Chip version/vendor; COS version/vendor; different generations, ...
    - → combinatorial explosion



Current Situation

- New protocols/features
  - Specification → Implementation → Testing → and back
  - Currently: Implement on chip
    - Many players involved – chip vendor, COS vendor, …
- Conformity testing of card reader, client software, …
  - Currently: Use (commercial) hardware based card simulator
  - Hardware simulator provides ISO 14443 layer
    - Great for Layer 1-4 reader tests, but unnecessary for higher layer tests



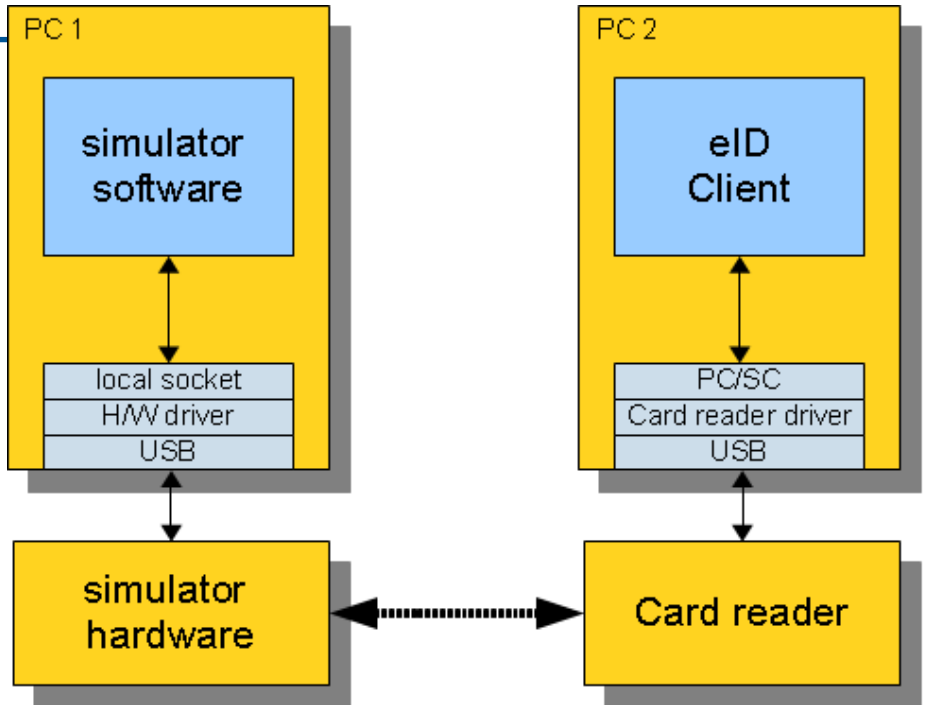
PersoSim

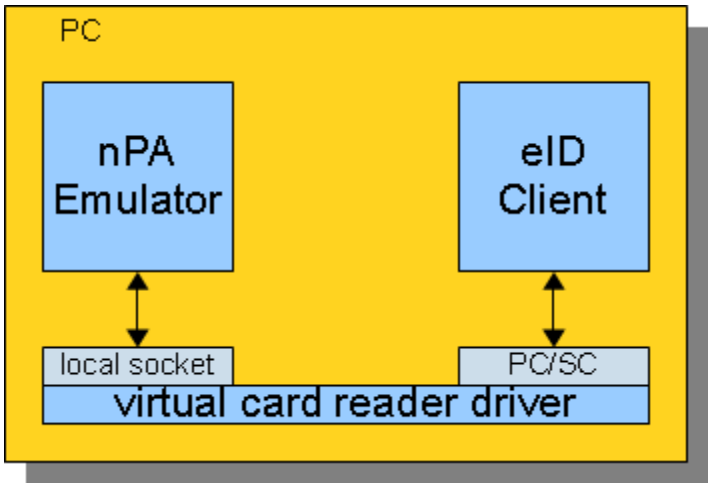
- Software simulation of complete German eID Card as specified in BSI TR-03110, including
  - PACE
  - Terminal Authentication
  - Chip Authentication
  - Restricted Identification
  - Age verification

- Personalisation files for
  - Beta-PKI / Test-PKI (same PKI as test cards)
  - Different data sets, “edge cases”, …
- Certified according to TR-03105 for conformity to TR-03110
- Open Source (GPL)

Communication

- Virtual card reader
  - Instead of HW simulator
- PC/SC interface to client software
- No (physical) card reader necessary
- Simplified setup





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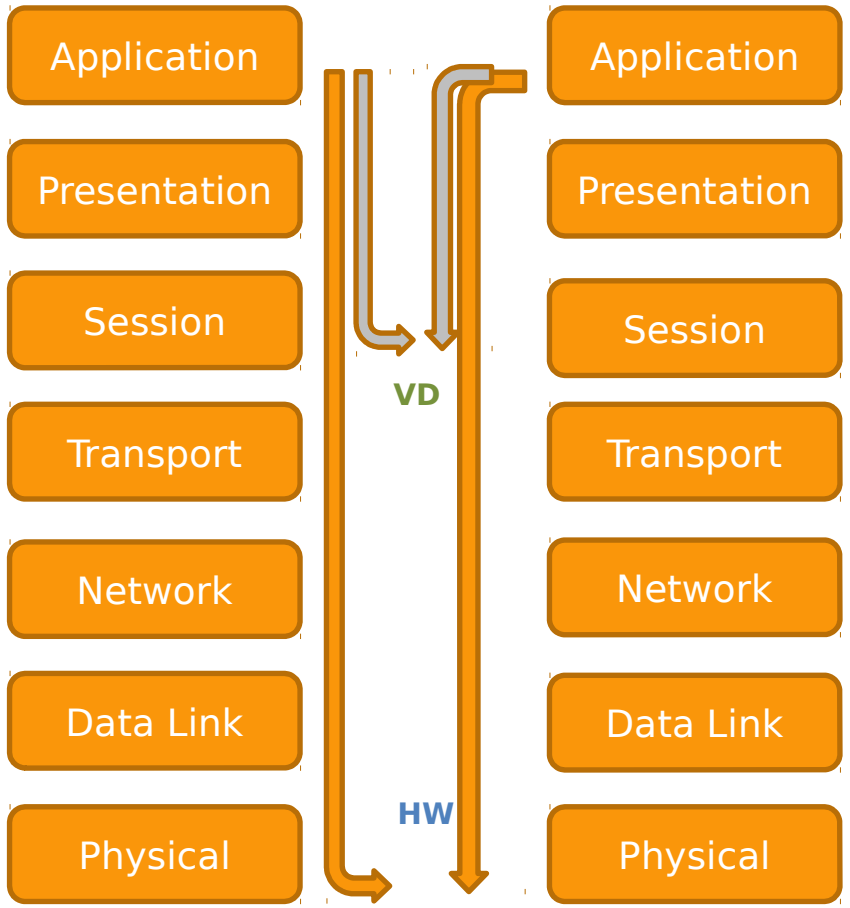
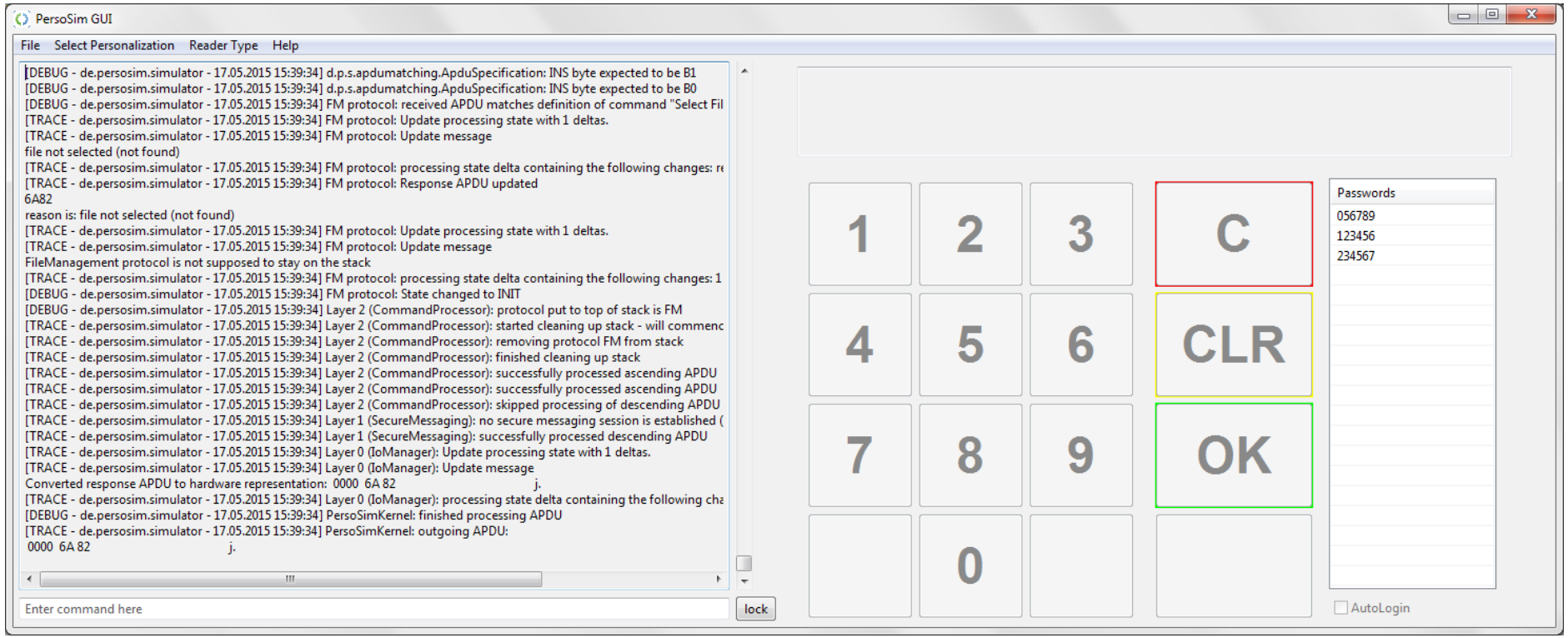


- Simulator provides full trace of commands/responses
- Virtual card reader with/without PIN pad



Smartphone as Card

- PersoSim ported as Android App
- Communication via NFC interface
- Allows testing the full setup including reader
  - But no separate simulator hardware necessary
- Full personalization flexibility
  - ... as opposed to test cards

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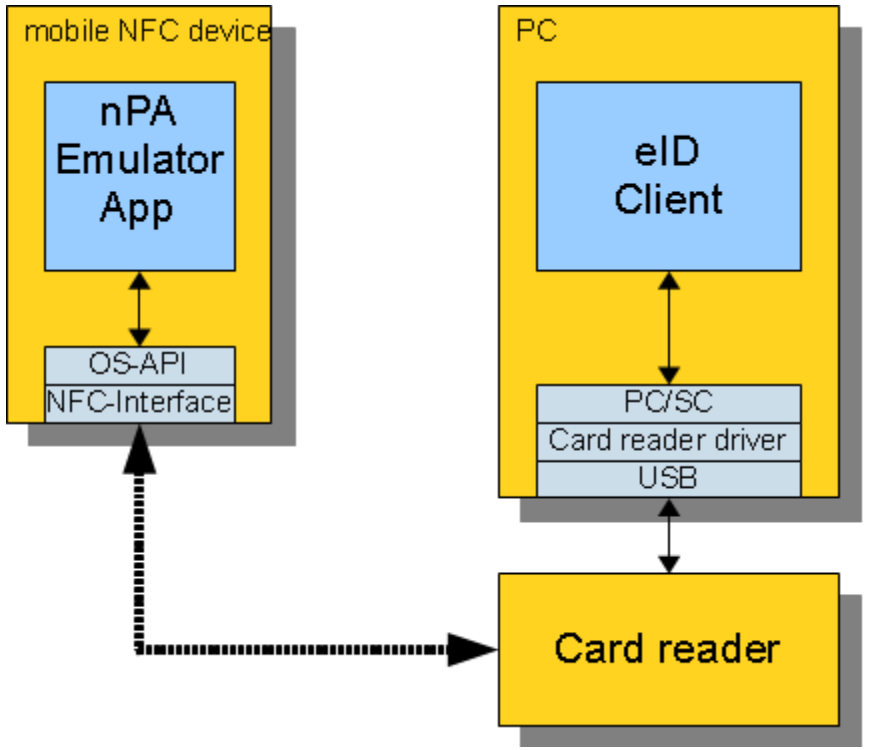

Future

- Possible enhancements (some of them already in progress)
  - Nice GUI for the android simulator
  - Integration of additional/new protocols / testing of new ideas
    - ePassport, eIDAS Token
  - Bugfixes
  - …
- Join the community!
  - Users → www.persosim.de
    - Ready to use binaries, manuals, personalisation files, …
  - Developers → https://github.com/PersoSim
    - Source code, style guide, wiki, …

Contact

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