Nagra

The Smart Card Architect

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Kudelski Group Structure

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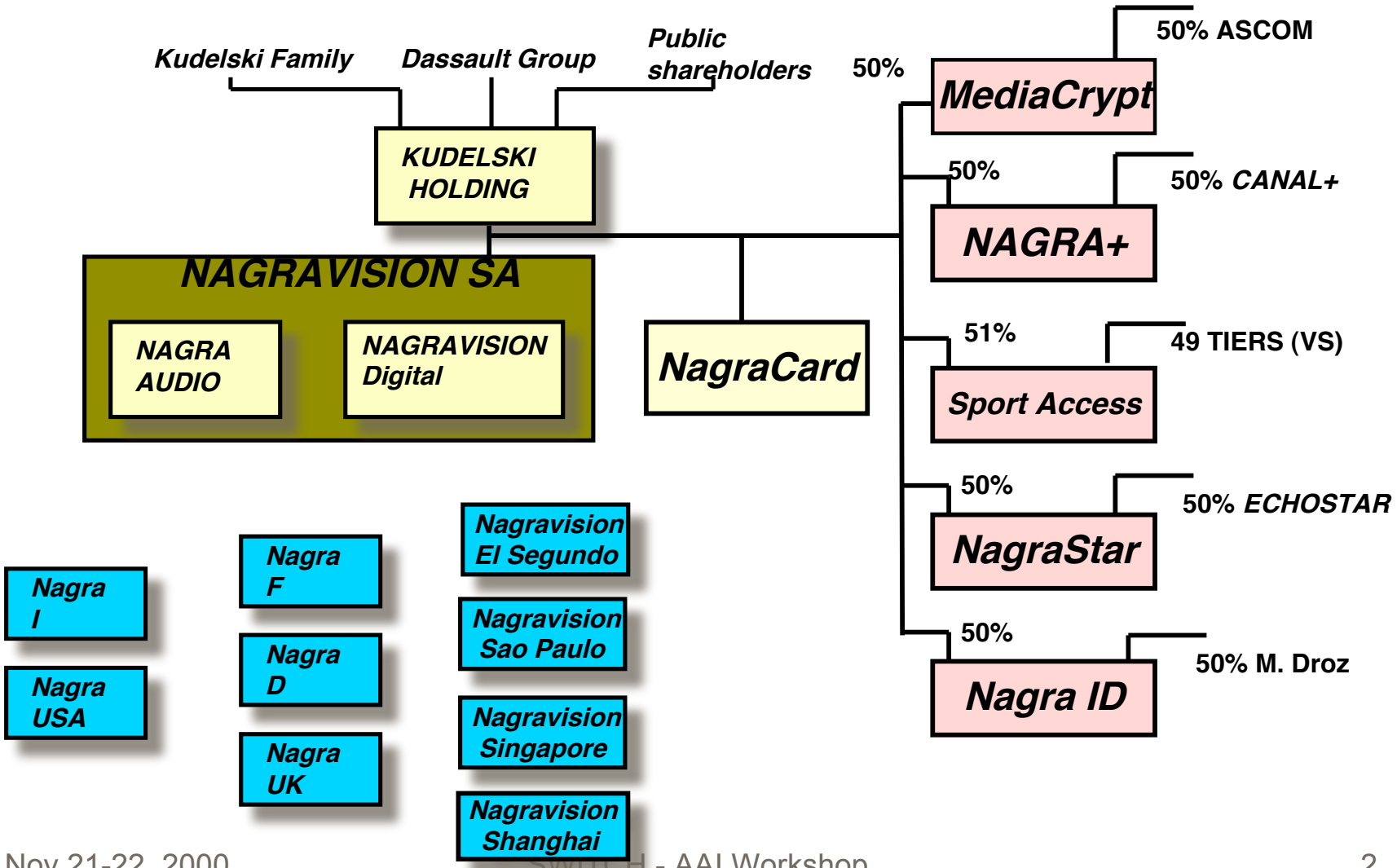

Presence Worldwide

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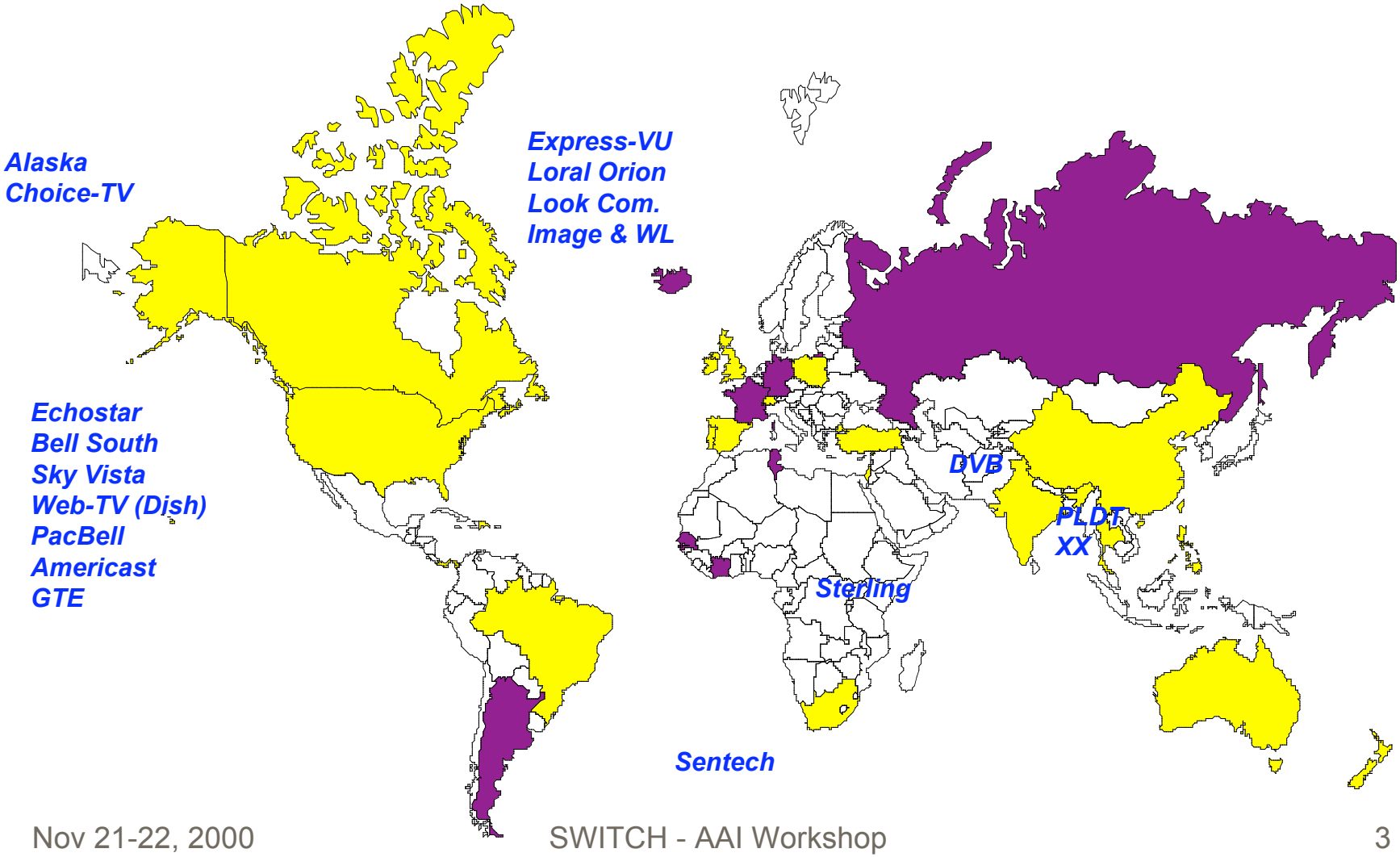

Pay-TV, did you know it's PKI ?

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- Pay-TV systems installed worldwide
  - 22 millions customers
  - pay-per-view
  - electronic purse
  - Internet
- Managed and secured with a very high proprietary secured PKI solution
  - based on a smartcard

Microprocessor based smart card

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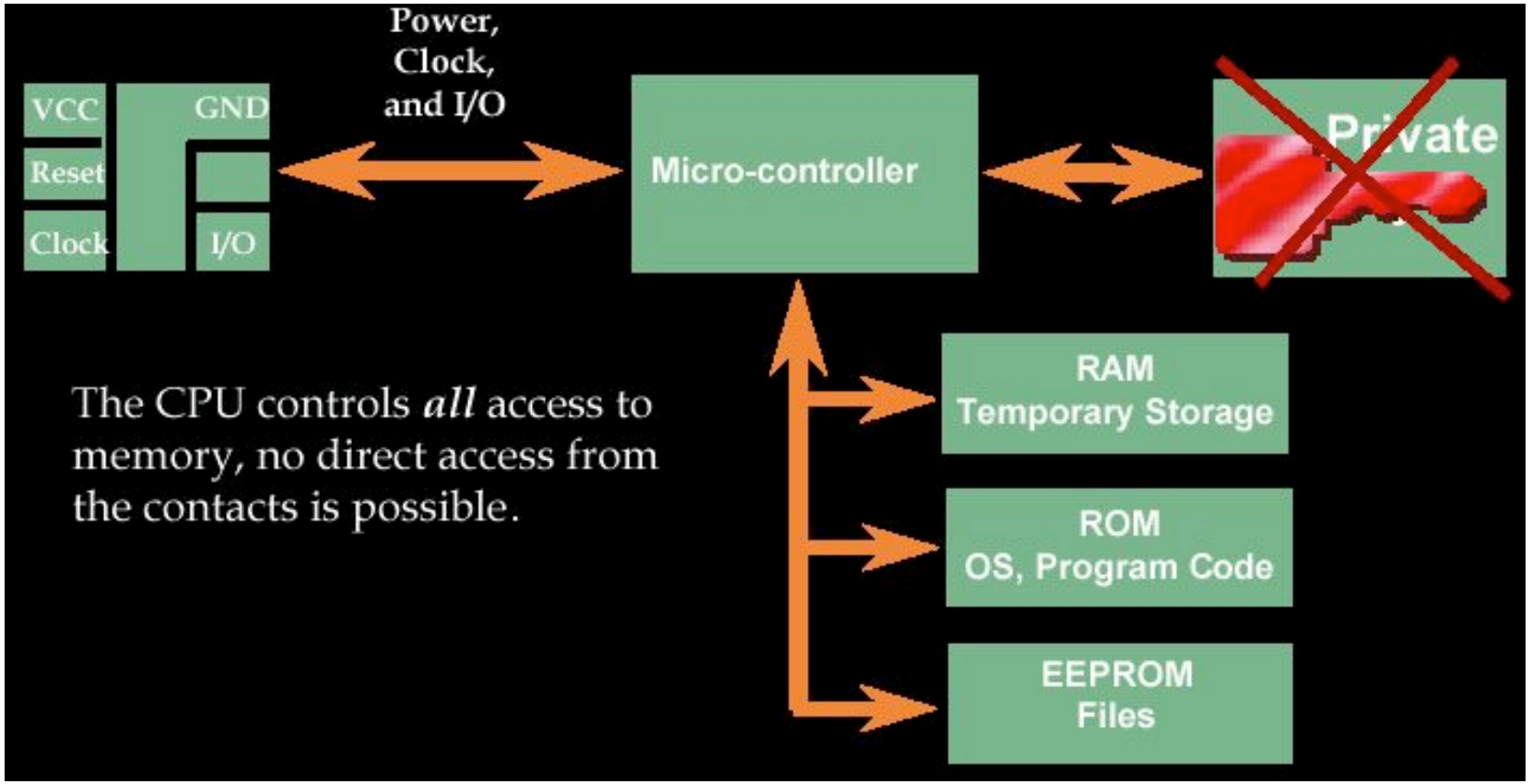

Smart Cards and PKI

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- Smart cards are «certificate wallets»

- Secure storage for:
  - Owner private key
  - Trusted root certificates
- Smart Cards are a «PC-in-your-Pocket»
  - Generation of owner's digital signature
- Smart cards provide:
  - Mobility
  - Security
  - Transparency
  - Issuer branding, loyalty

Digital ID

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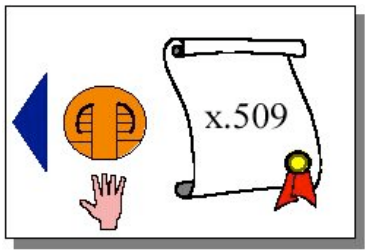
- Asymmetric key-pair
  - public key
  - private key

- X.509 certificate
  - ISO standard
  - public key
  - credentials



Smart card application example: Digital Signature

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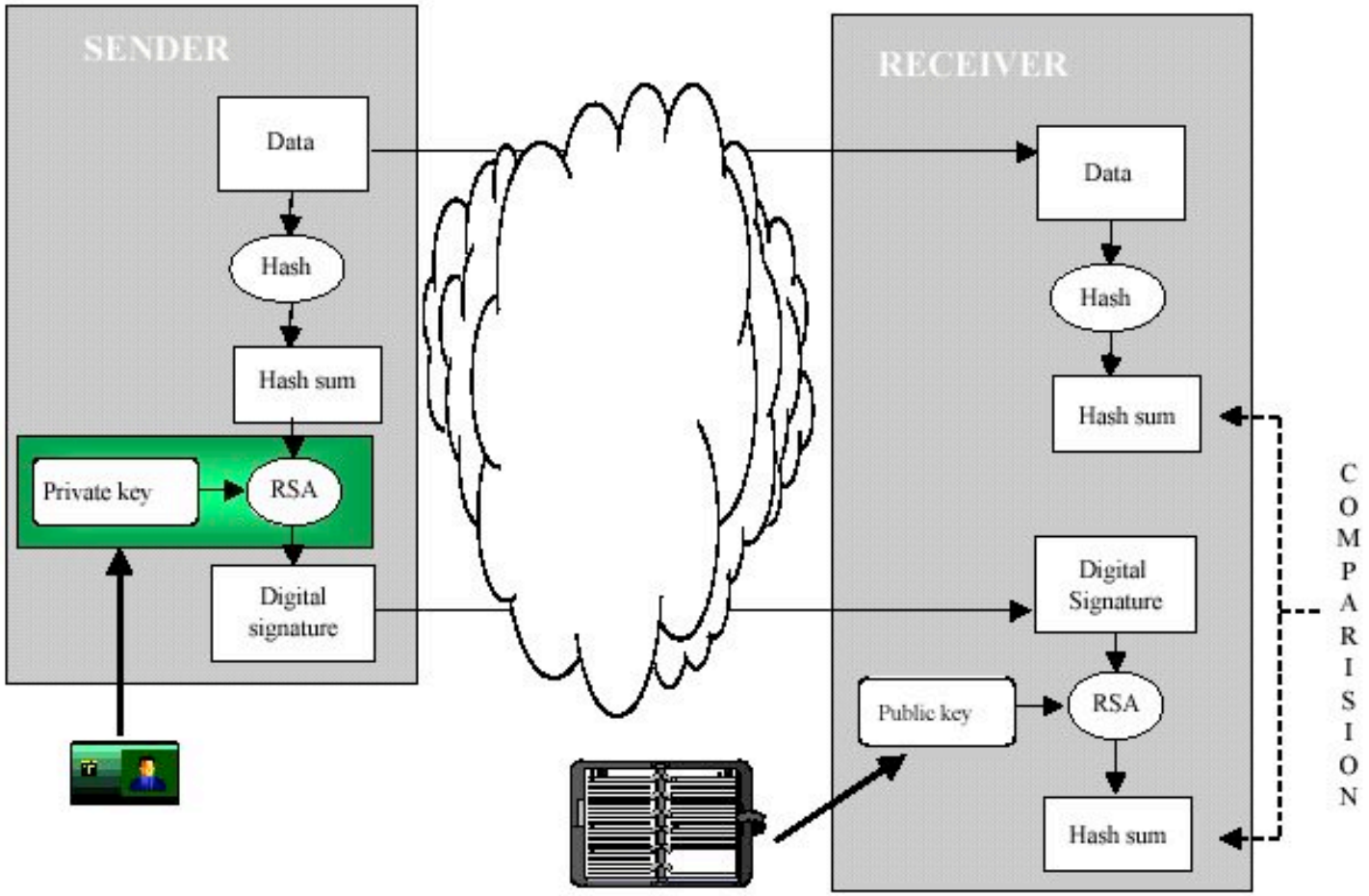

Smart card in heterogeneous environments

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- Smart cards need readers and drivers
- Readers
  - desktop or embedded (keyboard, floppy slot)
  - optional display and keypad
  - PC world ready for installation
  - Mac, Unix & Linux 'waiting' for USB
- Drivers
  - PC/SC standard for Windows PC
  - custom developments

ISO 7816 vs USB

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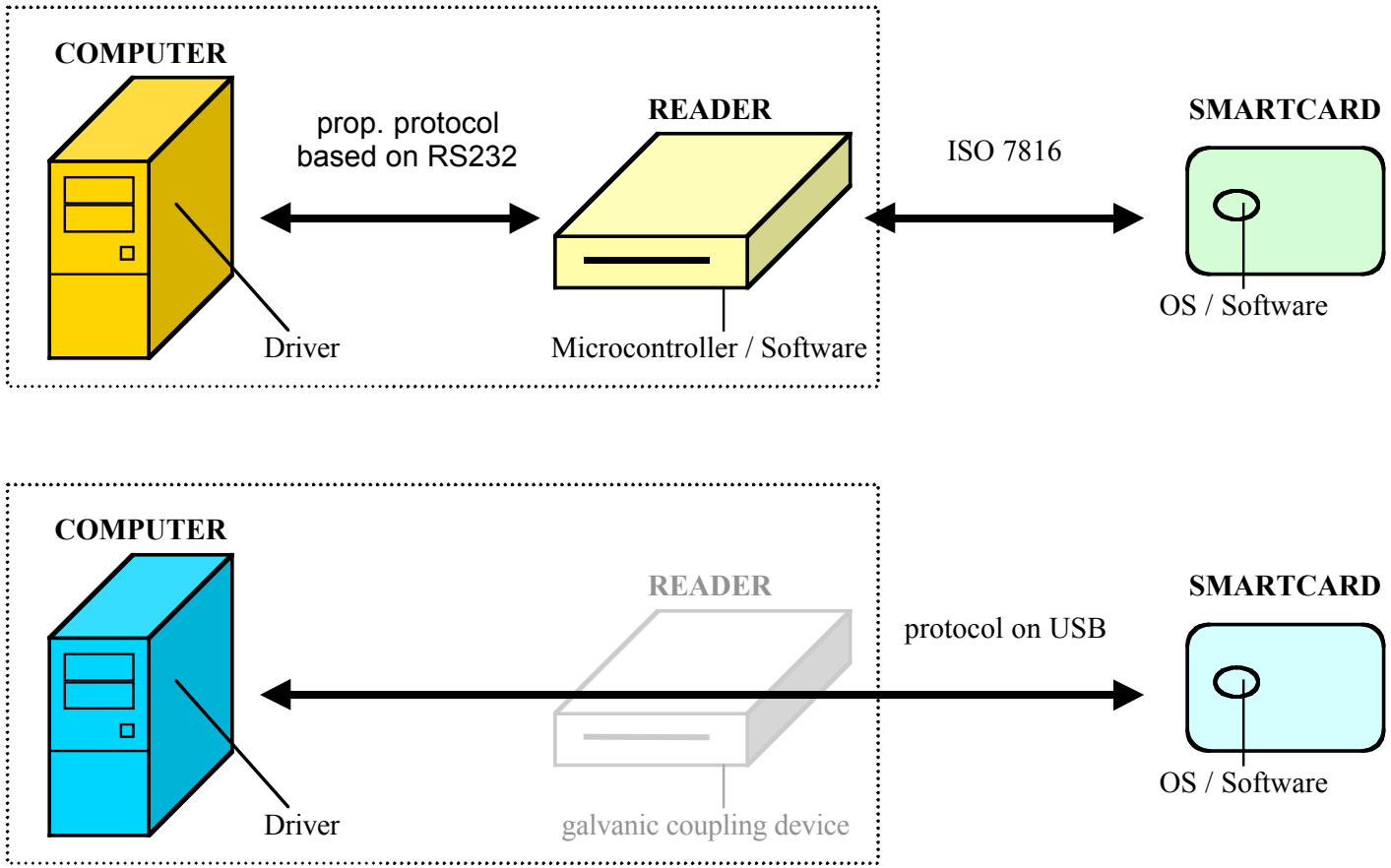

Certificate Portability: Smart Cards Holding Certificates

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- Pros
  - Tamper-proof device
  - Portable
  - Visible security/theft indicator
  - Upgradeable
  - Branding, Photos,Mag-stripe
  - Biometric cards, readers coming
- Cons
  - More expensive than a pure software solution
  - infrastructure
  - Standards issues
  - Multi-application issues

NagraCard solution

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- Based on knowledge of massively-deployed smart card based system management in Pay-TV
  - Nagravision is the #1 player in digital TV, and is an independent company
  - More than 20 millions of smart cards delivered and operating
- NagraCard thinks security at system level
  - To secure the overall security
  - To avoid a breach in the chain
  - To strengthen each element security

Our Mission

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- Smart card architect
  - Security solutions & services
- Smart card R&D
  - Secured and reliable smart card operating systems and applications
- Our approach
  - audit
  - architecture, security
  - implementation

Contact

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