

ccTLD registry as identity provider

CZ.NIC

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Agenda

- FRED registry software and contact manipulation
- Importance of contact data quality
- Identity provider – mojeID service
- Advantages for registrants and registrars
- Statistics
- Conclusion

FRED

- Open source registry software
 - Used in CZ, AO, TZ, FO, CR, EE
- Registry – Registrar - Registrant model
- Main objects: Domain, Contact, Nameserver set, Key set
- Objects can be shared - linked to each other
- Sponsoring registrar
 - Responsible for data in his objects
 - Data can be changed only via EPP protocol
- Registrant can transfer object to other registrar
- Contact
 - Used to send notifications about changes in linked objects
 - WHOIS service shows disclosed information

Contact data quality

- Importance of accurate contact data
 - Law enforcement procedures
 - Ownership protection – notification procedures
- Registrar responsibility to provide accurate data is stated in contract
 - “The Registrar ... shall make reasonable effort to verify such information..”
- At least name, organization and address are visible in WHOIS
 - Public control of registration rules
- Registration rules allows us to cancel registration when invalid contact data are found
 - Manual procedure to verify data

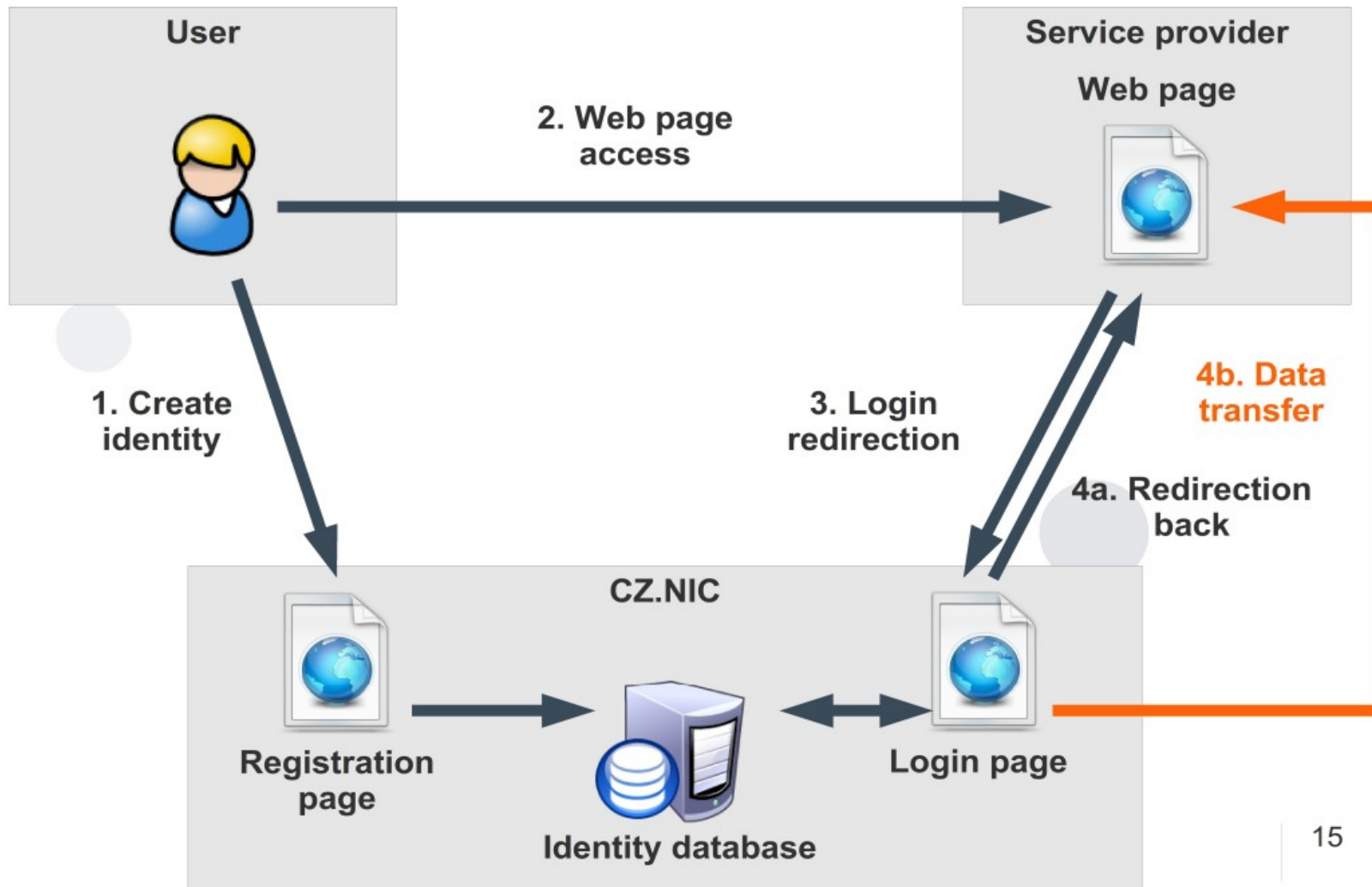
mojeID service

- Our own registrar dedicated just for contacts
 - Contacts must be transferred
- Automatic validation of contact data
 - Sending codes via email, SMS and letter
- Optional personal validation
 - Internal by our staff or external by notary
- Web administration interface for contact data manipulation
- User receives authentication credentials
 - Passwords, SSL certificates, ...

OpenID protocol

- Popular single sign-on protocol supported by thousands of websites
- Contacts has associated openid identity:
 - *handle.mojeid.cz*
- User can provide his data to website during authentication
 - Each attribute can be omitted from this transaction
- Verification status may be passed to website
 - Saves money for their own verification

OpenID protocol



Advantages for registrants

- Registry – registrant relationship is established
 - Contact has verified data
 - Contact can be authenticated
- Verified contacts can hide address in WHOIS service
- Easier direct requests to registry that requires authentication
 - To provide authinfo code for transfers
 - To block domain against registrar changes
- Registrant-oriented view of registry (idea)
 - List of all domains across all registrars
 - View history of changes, history of notifications
 - ...etc

Advantages for registrars

- Maintenance of accurate contact data can be painful
 - But is required according contract
- Registrars may behave like OpenID service providers
 - OpenID identity could be used to access all registrar's systems
- Authorization of changes in registry (idea)
 - Registrars often use letters authorized by notary
 - Not necessary if contact has been already fully verified
 - Registry can authorize request with OpenID authentication

Statistics

- 2 years in production
- ~ 70 000 accounts
 - 59% - verified by email & sms
 - 40% - verified by letter
 - 1% - personal verification
- ~ 1500 OpenID authentications a day
- ~ 2000 different service providers
- 4 of 46 registrars

Conclusion

- Registry system is suitable to play a role of identity provider
 - Huge database with contact information
 - Trusted organization in given region
- Slightly modifies registry-registrar-registrant model
 - Registry has significant interaction with registrants
- High potential of authentication and authorization features

Questions ?

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