Registry software
a modern solution
for TLD registries

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Problem

- Old .yu academic software base
- Client-server Windows app
- Registry-registrar model piggybacked
- Custom web services (no EPP)
- No plans for DNSSEC
- Old .yu transition and IDN sunrise code
- Security uncertainties
- Passive backup site
Requirements

- Modern modular software solution
- Web based interface (responsive)
- Standard EPP (some extensions)
- Simplified procedures
- Security by design (OWAS)

AFFORDABILITY (.rs < 100,000 domains)
Registry's dilemma

How to find an optimal solution?

- Old code not really upgradable
- No off-the-shelf solution
- Open source „Fred“ considered, but needed to be modified
- National registry operations could not be outsourced
The Solution (timeline)

- 2011: Decision to split project and creating software
- 2013: Project awarded to Belgrade School of Electrical Engineering
- 2014: Project done and accepted
- 2014: International tender for software
- 2015: New software written
- 2016: New hardware & implementation
New system

- Configurable functionality and TLD rules
- EPP based, IDN enabled, DNSSEC ready
- Secure access 2FA & OTP
- Secure domains (verifications, secure mode, registry lock, notifications)
- High performance and reliable
- Multi-language

Fits any TLD registry
Active-Active infrastructure

VMware, Windows server, MS SQL
Easy to learn and use
In use...

- Transition June 26\textsuperscript{th} 2016 – 5 hours
- No major problems since, 100% up

- Minor problems:
  - Verifications of new email addresses
  - Notification system needed improvements
Lessons learned

- Security by design very important (static code testing, testing procedures, EPP testing tool)
- Long process
- Major cost for the registry
- Success by planning ahead
Further plans

- IDN extensions for .rs
- DNSSEC
- Marketing related extensions

Open for partners to advance and exploit the solution
Thank you for your attention

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