A SECURE E-VOTING INFRASTRUCTURE IMPLEMENTATION BY SWISS POST

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SWISS POST AT THE STRATEGIC PHYSICAL-DIGITAL INTERFACE
TRUSTED PARTNER

Strategy
We connect physical and digital processes, and as a trusted partner, create bridges between both worlds for our customers.

Examples
- E-Health  – SuisseID
- E-Banking  – E-Voting
- E-Post

E-voting is a strategic business area for Swiss Post and the logical development of our core business, with the secure transport of confidential information in the digital world – today and in the future.
SWITZERLAND
SOME CONTEXTUAL SPECIFICITIES

- 4 federal events per year
- 3 channels of vote
- canton’s responsibility
- postal voting since > 30 years
- e-voting credentials per post
- no multiple vote
SWISS POST
E-VOTING SOFTWARE SPECIFICITIES

- End-to-end encryption
- No voter’s name and address saved on Post server
- Cryptographic protocol
- Multi-client, Multi-event
- Canton’s autonomy
- Certification
SWISS POST
RELIABLE E-VOTING INFRASTRUCTURE

Data centers

Business continuity management

Application infrastructure

Database infrastructure

Dedicated infrastructure

Access layer

Reverse proxy

Certification
SECURITY THREATS
COMMON SECURITY THREATS

- Outage
- External or Internal attack
- Identity misuse
- Insecure communication channel
- Corrupt client
- Manipulation by voters
- Website manipulation
- Mutual interference
- Insufficient proof of the accuracy of a vote
- Loss of votes
E-VOTING SPECIFIC SECURITY MEASURES FOR INFRASTRUCTURE
E-VOTING SPECIFIC SECURITY MEASURES FOR INFRASTRUCTURE

1. Security DDoS umbrella
2. Security JS response check (validation of response body hashes)
3. Security integrity monitoring
4. Security four-eyes principle access (auth)

HTTPS/SSL
Firewall
Internal firewall (REHL)
E-VOTING SPECIFIC SECURITY MEASURES FOR INFRASTRUCTURE
E-VOTING SPECIFIC SECURITY MEASURES FOR INFRASTRUCTURE

Diagram showing dedicated zones with dedicated areas, server certificates, internal firewalls, voter front end, admin portal, voter portal, admin back end, and a database with firewalls.
SOME OTHERS SECURITY MEASURES

- Four-eye principle
- Immutable logs
- Change request (with management involvement)
- ISO 27’001
THANK YOU FOR YOUR ATTENTION
YOUR CONTACT PERSONS IN BREGENZ

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