Logius
Ministry of the Interior and Kingdom Relations

Mitigating the Impact of incidents on the PKIoverheid system

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Robert van de Rijt
Tactical administrator
Policy Authority PKIoverheid

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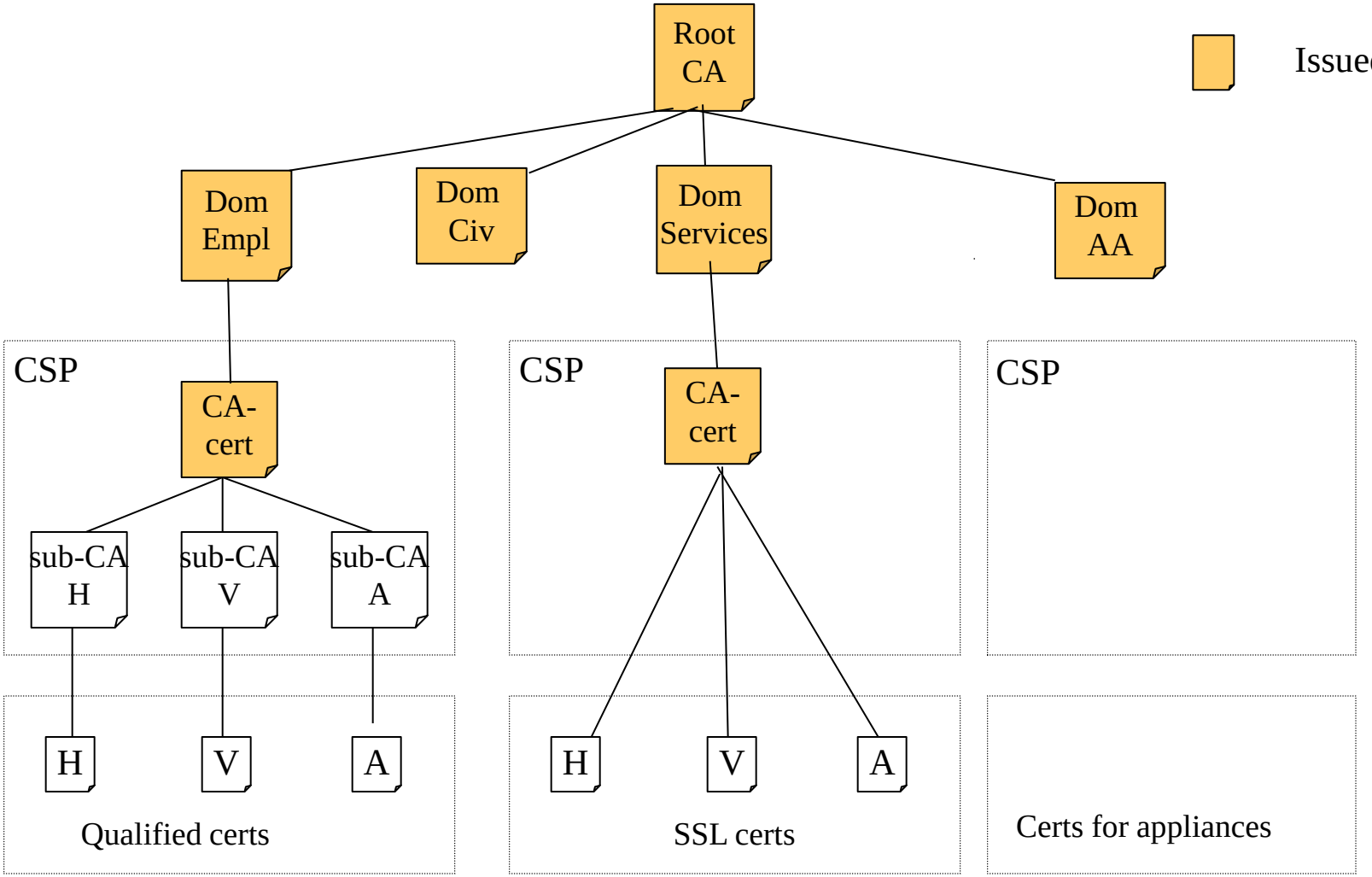
PKIoverheid

- PKIoverheid is the PKI for the Dutch government (Staat der Nederlanden Root CA);
- The Ministry of Interior and Kingdom Relations (represented by Logius) is the owner of PKIoverheid;
- Certificate Service Providers (CSPs) must comply with the PKIoverheid requirements (CP = Programma van Eisen);
- CP based om ETSI, IETF RFCs, CABforum BR, additional PKIoverheid requirements;
- CSPs are both commercial CAs and some ministries;
- Policy Auhority (PA) PKIoverheid. Tasks: supervision and policy.


Root CA
Issued by the PA
Dom Empl
Dom Civ
Dom Services
Dom AA
CSP
CA-cert
sub-CA H
sub-CA V
sub-CA A
H
V
A
Qualified certs
CSP
CA-cert
H
V
A
SSL certs
CSP
Certs for appliances

Mitigating the impact of incidents

- Root and domain CA certs are offline in a vault;
- PA does not assist hands-on in problem solving of security incidents at a particular CSP;
- Requirements and controls to mitigate the impact on the PKIoverheid system as a whole.

Requirements and controls 1

- More supervision on CSPs;
- Pentests;
- Separation between the PKIoverheid services and other PKI services or hardware infrastructure;
- PKIoverheid services must be separated physically if possible but at least logically;
- Subscribers are urged to have backup certificates;
- CP contains an incident and security breach notification requirement;

Requirements and controls 2

- Extensive logging;
- Cooperation with other government agencies;
- Disaster Recovery plan;
- The PA has trilateral meetings with the ACM and the auditors regularly to level on the current status of the system;
- Private Root CA.

Limiting trust

Compartmentalizing / Limiting trust in certs is a important measure to control and mitigate the impact of security incidents for the PKIoverheid system but certainly also on a more holistic level. For example, limit trust in PKI certs on the basis of:

- Geography – regional trust list browsers;

- Extended key usage - only publicly trusted certs with an EKU of client-server authentication used for setting up an SSL connection;

- specific software / applications – public key pinning, need to have instead of nice to have.