

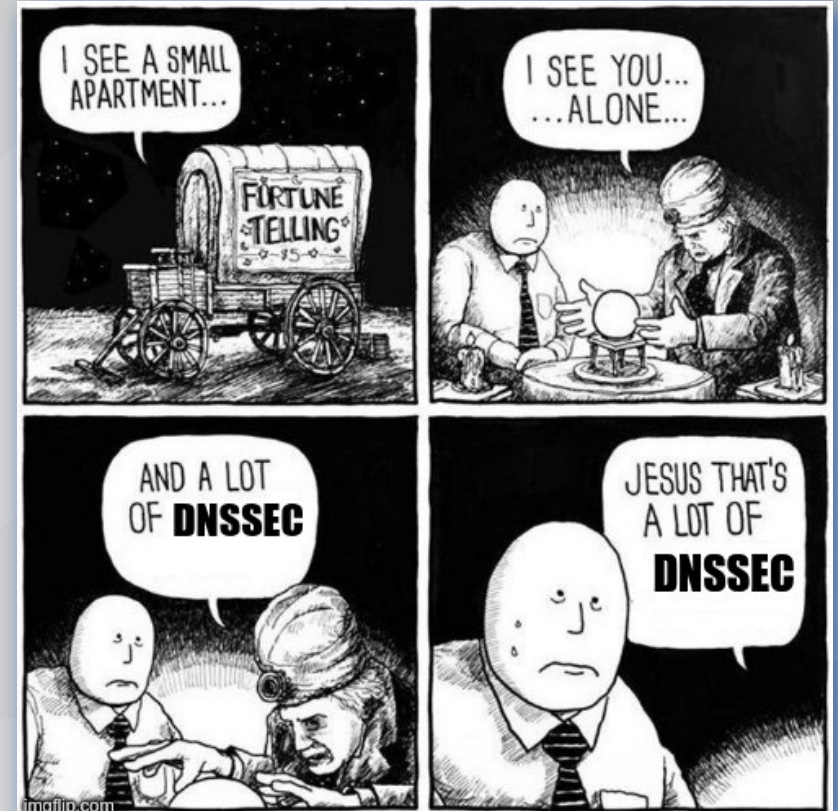
# DS Automation in BIND 9

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ICANN77, DNSSEC Workshop



# Who am I?

- **Matthijs Mekking**
- **DNS** software developer for 15+ years
- Working for **ISC** since December 2018
- Working on **BIND 9**
- Previously: *Dyn, OpenDNSSEC, NLnet Labs*



# Mission: Make DNSSEC easy

- “DNSSEC is hard”
- But can be really easy: **dnssec-policy**
  - All DNSSEC settings in one place
  - Easy enabling DNSSEC
  - Automated signing
  - ZSK rollovers
  - **KSK rollovers**

# Automating KSK Rollovers

- Requires interaction with your parent zone (via registrar)
- Not standardized, what makes it problematic?
- Alternative:
  - CDS/CDNSKEY combined with DS polling

```
example.nl. 3600 IN DS 21532 13 2 6900CEBDCCE9BE91D899C74576A6A6D00BD25B303D185A1CC1C7CDF0...
```

```
example.nl. 3600 IN CDS 21532 13 2 6900CEBDCCE9BE91D899C74576A6A6D00BD25B303D185A1CC1C7CDF0...  
example.nl. 3600 IN CDNSKEY 257 3 13 DfvVT9W9/MuL6HwX18rU3W5Jv2YvdNkwfz/GpxNPY/OZo+b31ltiZD7L...
```

# Automating KSK Rollovers

- CDS/CDNSKEY is published when it is time by **dnssec-policy**
- **Parental agents** can be configured to send DS queries to

```
parental-agents "example" {  
    192.0.2.53; 192.0.2.54;  
};  
  
zone "example.com" {  
    type primary;  
    file "example.com.db";  
    dnssec-policy default;  
    parental-agents "example";  
    //checkds explicit;  
}
```

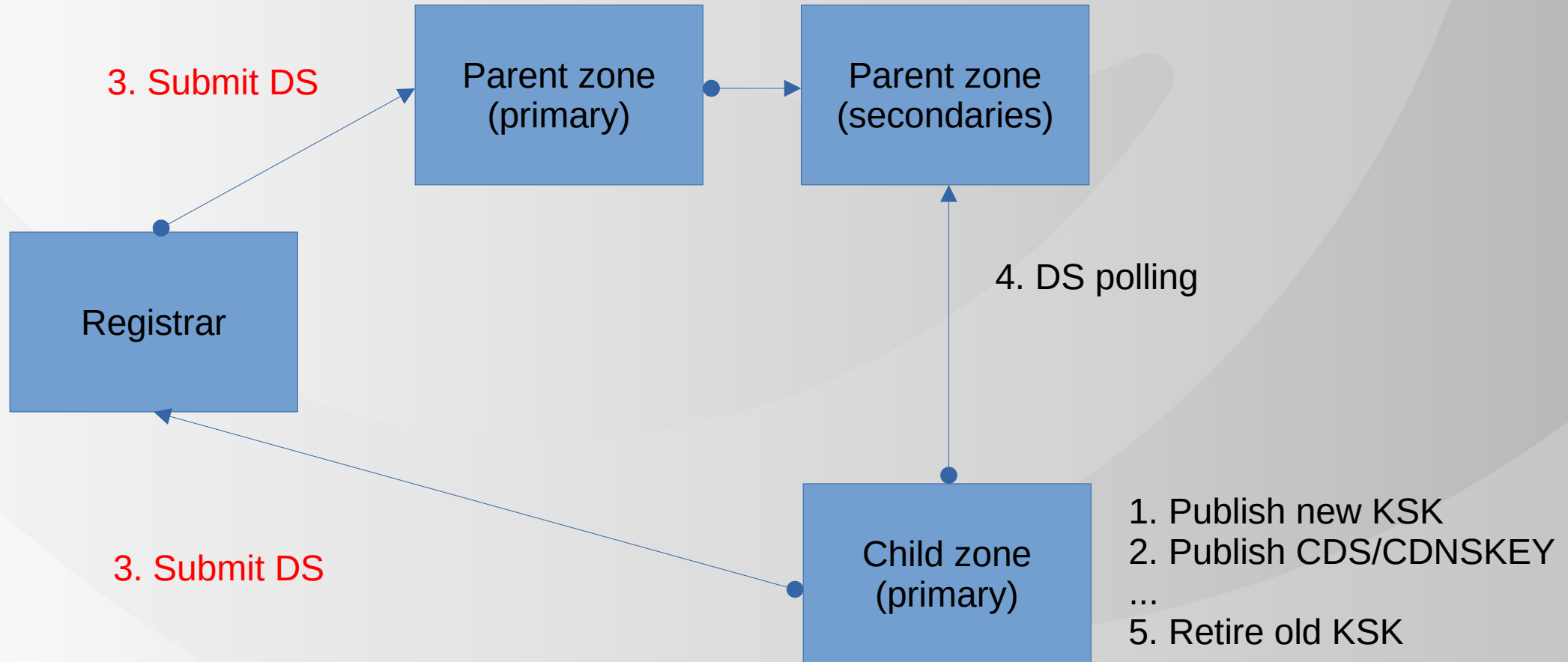
# Automating KSK Rollovers

- Implicit parental agents with the **checkds** option

```
zone "example.com" {  
    type primary;  
    file "example.com.db";  
    dnssec-policy default;  
    //checkds yes;  
}
```

```
example.com.      IN SOA . . 1 300 300 1814400 3600  
example.com.     IN NS ns1  
example.com.     IN NS ns2  
ns1.example.com. IN A 192.0.2.53  
ns2.example.com. IN A 192.0.2.54  
...
```

# Automating KSK Rollovers



# References

- Main website: <https://www.isc.org>
- Software downloads: <https://www.isc.org/download>
- Presentations: <https://www.isc.org/presentations>
- GitLab: <https://gitlab.isc.org>