

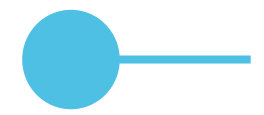
Email Under Attack: Protect Your Inbox and Domain

CCB Connect & Share webinar

Tuesday, 25 Nov | 10.00-10.30 AM | Online

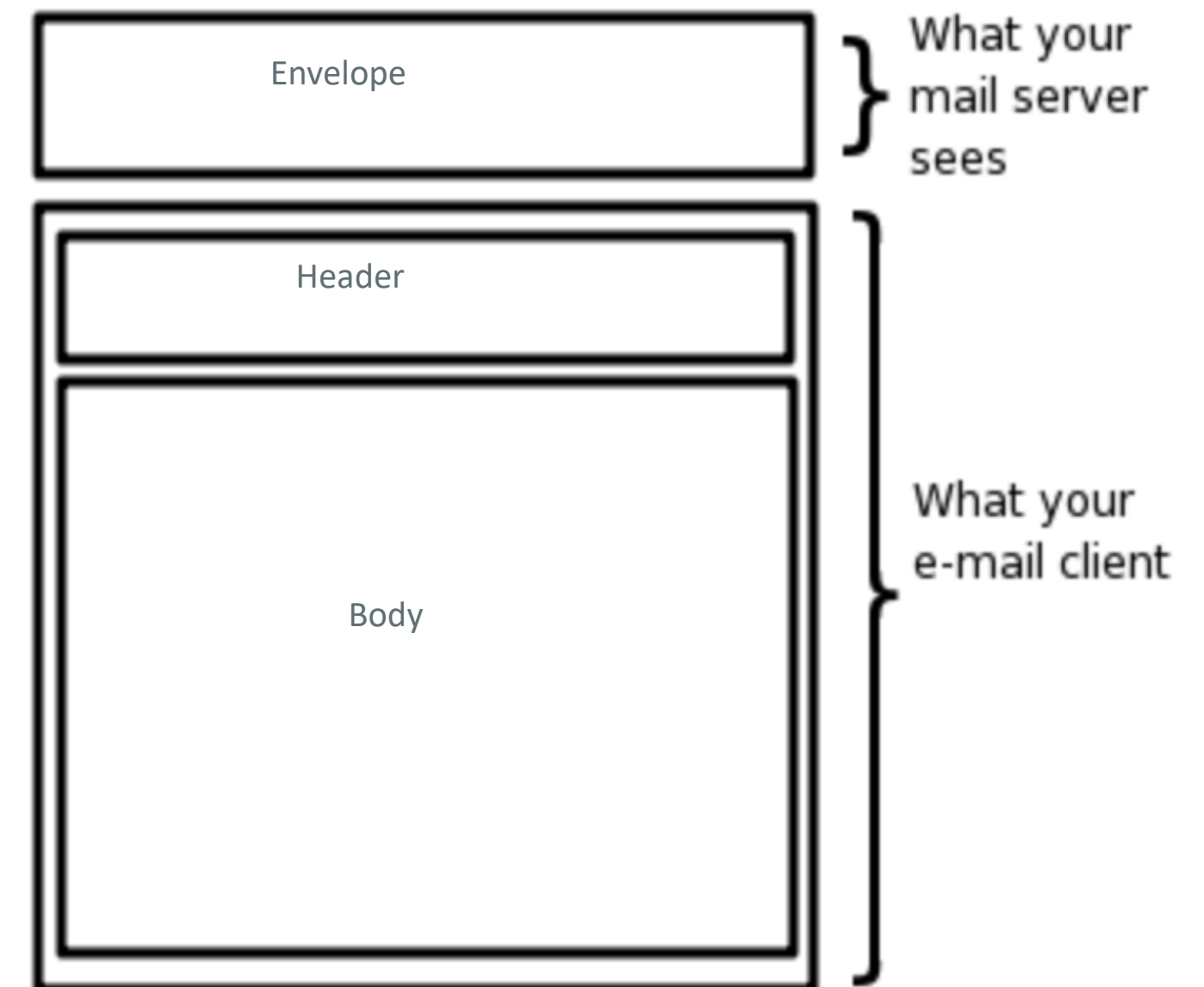


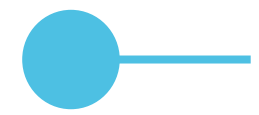
CENTRE FOR
CYBERSECURITY
BELGIUM



Envelope versus header

- MAIL FROM: <sender@example.com>
- 250 2.1.0 Sender OK
- RCPT TO: <recipient@foo.bar>
- 250 2.1.5 Recipient OK
- DATA
- 354 Start mail input; end with <CRLF>.<CRLF>
- From: sender@example.com
- To: recipient@foo.bar
- Subject: TEST email
-
- Hello world! This is my first test message sent.
-
- 250 2.0.0 Ok: queued as ABC123456789





Teaming up

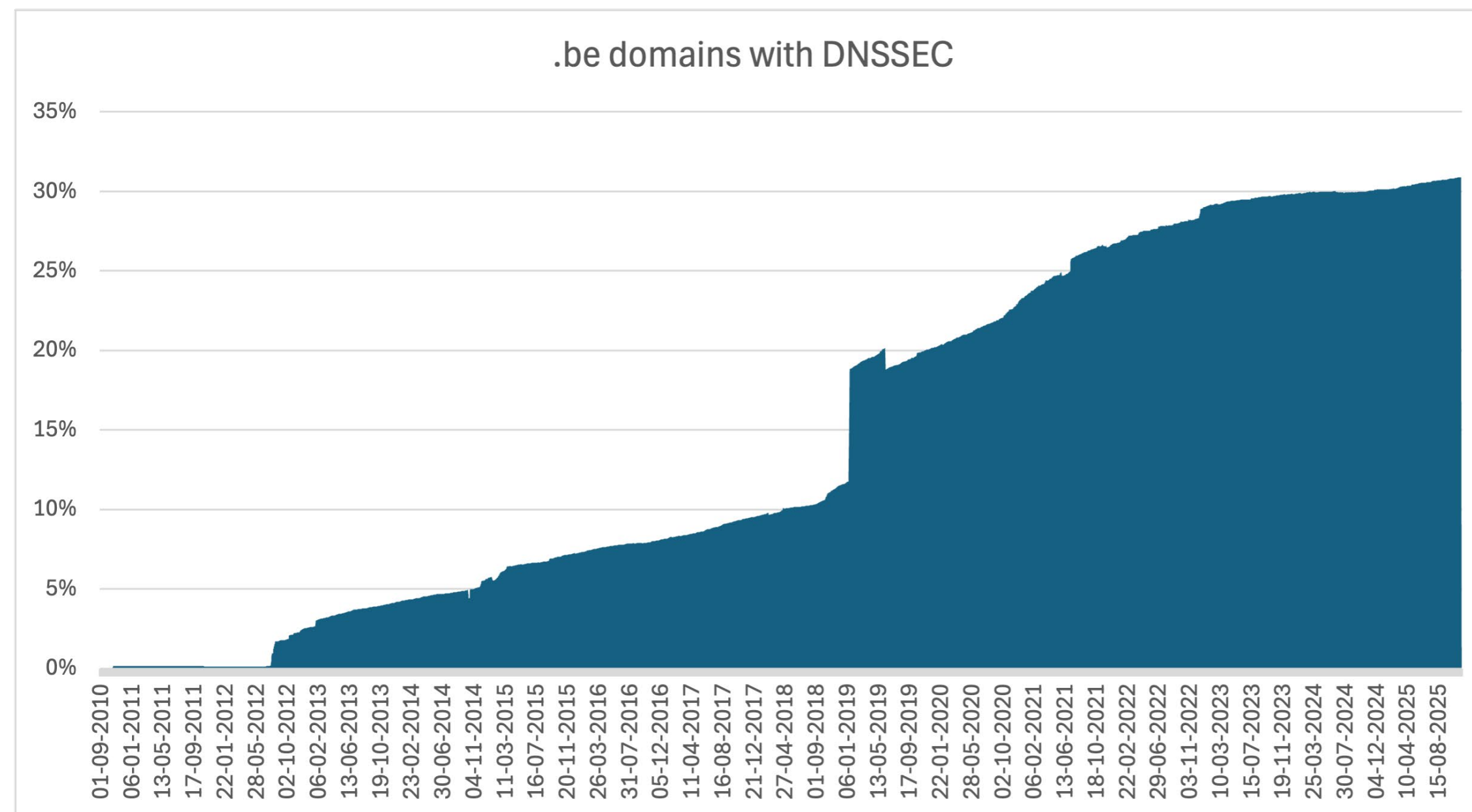
- MAIL FROM: <sender@example.com>
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SPF

DKIM

● The current state of affairs

- ✓ SPF: 52,4% of all .be domains have an SPF record configured
- ✓ DMARC: 10,5% of all .be domains have a DMARC record configured



● SPF record syntax

domain.bar. 3600 IN TXT "v=spf1 include:spf.somemailservice.foo ip4:1.2.3.4 -all"

~~+ Pass~~

~ SoftFail

- Fail

prohibit
all others

~~? Neutral~~

● DKIM record syntax

Publish the following DNS TXT record on **selector1**._domainkey.domain.bar subdomain

```
"v=DKIM1;k=rsa;p=MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEA p+AuhkbBU70rbbj6gyu  
WXw6kI15EE/KPD8ffDNtyN4gl8SJxMZUJN+Cj/Xg+Gju57799HEX7sIHgl3IjRfITFEnx+ihZKult88eA+1hN  
9OAsTVfvADoE4de6fkPxM+tOhf/iFeomULkTERnAUW9ADF0WWd5sAJ1X2CAVI7c4zhbjcngUEKHbDY  
d7ZTOh8oP4ZpW6DOOgjEdLZVCxbjjMwPLq+FMc/CtVfeDF42u6OO28utXxjVt7t1p0RhWrVbp5lDe/RXk  
W1+tEPMO8ynI2JXjQzdc/XlwQ4S84TjBLEf/QQFAo4PzRAbi1I57bmn+K92VEtItN88CZbbylthWhwQIDA  
QAB"
```

DMARC record syntax

Publish the following DNS TXT record on `_dmarc.domain.bar` subdomain

```
"v=DMARC1; p=reject; pct=100; fo=0; rua=mailto:dmarc@domain.bar; ruf=mailto:dmarc@domain.bar"
```

↓
Policy

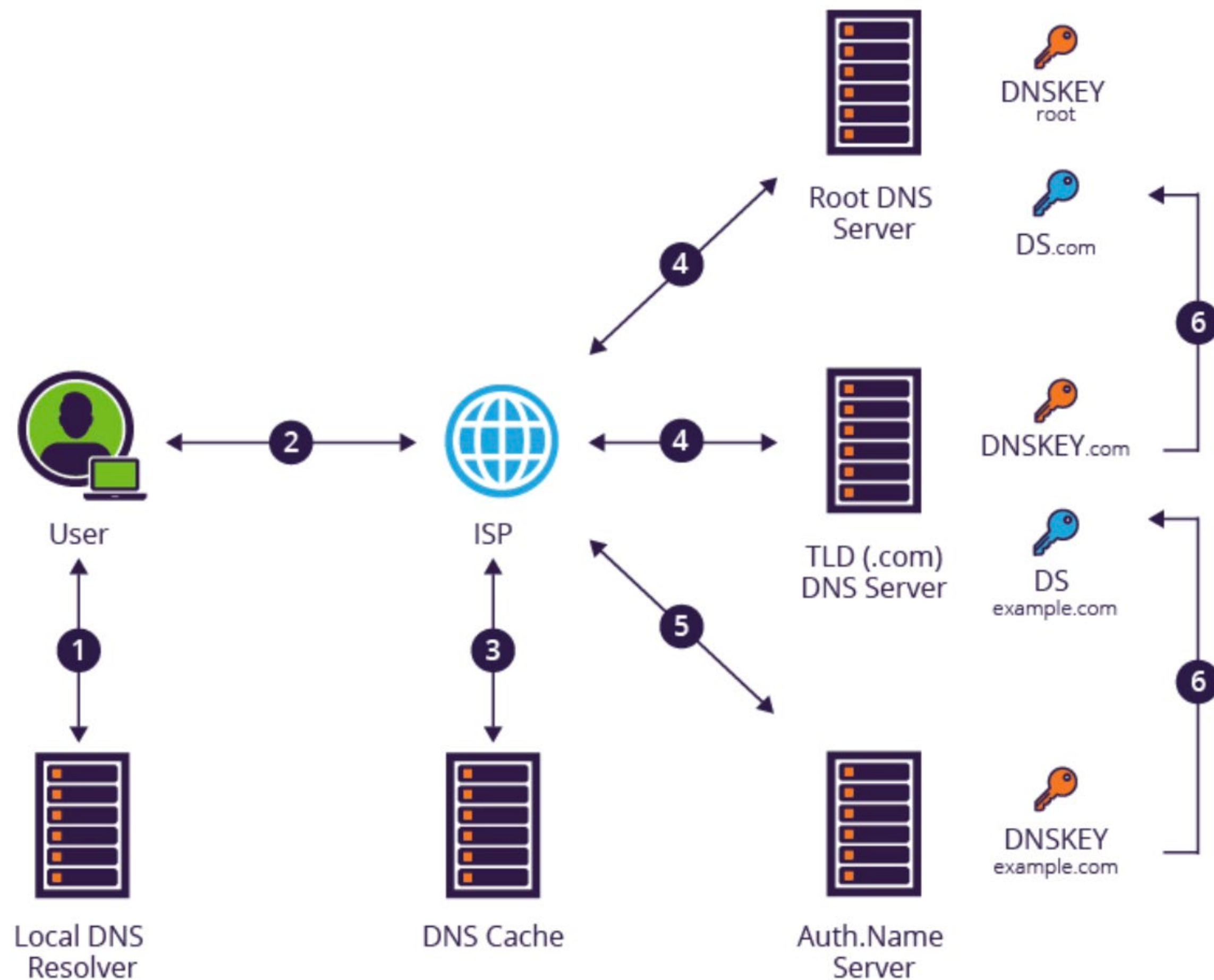
- none
- quarantaine
- reject

Aggregate Reports
..... RUA

Forensic Reports
..... RUF

DNSSEC

The chain of trust



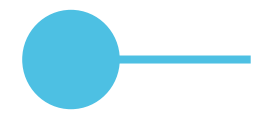
● Practical tips – top 10



1. Enable **DNSSEC**
2. Deploy **SPF, DKIM, and DMARC**
3. **Review** DMARC reports
4. **Inventory all services** that send mail
5. **Domain lifecycle management**
6. Monitor **DNS integrity** (record changes, registrar lock, tamper detection)
7. Monitor your **domain reputation**/
Monitor for **lookalike domains**
8. **Reduce your attack surface**
9. Enforce **MFA** for all email accounts
10. **Train employees** to detect phishing

● Disable unused email domains/subdomains

- If you're not sending email from a domain, explicitly set:
- # null mx record; we don't accept email for this domain
- domain.foo. 86400 IN MX 0 .
- # SPF record; no servers are authorised to send email for this domain
- domain.foo. 86400 IN TXT "v=spf1 -all".
- # DMARC record with the 'reject' option set and RUA address at another domain
- _dmarc.domain.foo IN TXT "v=DMARC1; p=reject; ... rua=mailto:dmarc-reports@domain.bar;"



Useful resources

- Here is a non-exhaustive list of useful resources:
 - Technical guidance by the CCB: <https://atwork.safeonweb.be/tools-resources/dns-security-enabler-crucial-role-spf-dkim-dmarc-and-dnssec>
 - Step by step technical documentation: [CIS benchmarks](#) (e.g. Microsoft 365, Exchange Server)
 - Test your website and email: <https://emailshot.io/tools/dns-checker>, www.internet.nl, www.hardenize.com
 - For Belgian municipalities : <https://basisbeveiliging.be/>
 - CT log analyser: <https://crt.sh/>

● Upcoming Webinars

Quarterly Cyber Threat Report (QCTR) event

- 29 January 2026 – 2.00-4.00 PM CEST

Cyber Tips – MISP

- 19 February 2026 – 10.00-10.30 AM CEST

Any topic suggestions? Fill out the survey!



Questions?

Ask away in the Q&A section!

Further questions and feedback can be sent to
info@ccb.belgium.be



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