Compliance testing
with
internet.nl

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(Proxying a lot of people)
Internet standards platform

“Comply or explain”
• User friendly way to test adoption of standards
  – Compliance test, exclusively security standards!
• To be used by “end users”
• Create user demand by creating awareness
• Three categories: Connection, Web and Email
Scoring

• 100% is possible
  – but not required

• Explanations why some tests failed
  – Suggestions for improvement
  – There might be valid reasons for failing

• Not a debugging aid or a learning tool

• Designed by committee
Modern Internet Standards provide for more reliability and further growth of the Internet. Are you using them?

**Test your website**
Modern address? Signed domain? Secure connection? Security options?
about the test
Your domain name:
www.example.nl
Start test

**Test your email**
Modern address? Signed domain? Anti-phishing? Secure connection?
about the test
Your email address:
@ example.nl
Start test

**Test your connection**
Modern addresses reachable? Domain signatures validated?
about the test

**Statistics**

- **204409 website tests**
  - 100% score: 14212 websites
  - 0-99% score: 190197 websites

- **79517 email tests**
  - 100% score: 2709 mail servers

**News**
Next major release of Internet.nl will use the new TLS guidelines
Open source release Internet.nl including 'security headers'
Email test on Internet.nl extended

**Hall of Fame**
14212 websites with 100% score
Latest entry: 17-06-2019
- [www.voordebuurt.nl](http://www.voordebuurt.nl)
- [www.tjerkpeters.nl](http://www.tjerkpeters.nl)
- [www.nlight.be](http://www.nlight.be)
Website test: registration.icann.org

91%

Not reachable via modern internet address, or improvement possible (IPv6)
Domain name signed (DNSSEC)
Connection not or insufficiently secured (HTTPS)
One or more recommended application security options not set (Security options)

Test another website
Your domain name: www.example.nl
Start test

Test another email
Your email address: example.nl
Start test
Website test: events.icann.org

55%

- Not reachable via modern internet address, or improvement possible (IPv6)
- Domain name not signed (DNSSEC)
- Connection sufficiently secured (HTTPS)
- One or more recommended application security options not set (Security options)

Explaination of test report
Permalink test result (2019-06-17 14:07 CEST)
Seconds until retest option: 189

IPv6

Too bad! Your website is not reachable for visitors using a modern internet address (IPv6), or improvement is possible. Therefore your website is not part of the modern Internet yet. You should ask your hosting provider to fully enable IPv6.

Show details

Name servers

- IPv6 addresses for name servers
Name servers

IPv6 addresses for name servers

Verdict:
Two or more name servers of your domain have an IPv6 address.

Test explanation:
We check if your domain name has at least two name servers with an IPv6 address. This is consistent with the technical requirement of SIDN (.nl TLD registry) that each .nl domain must have at least two name servers.

Technical details:

<table>
<thead>
<tr>
<th>Name server</th>
<th>IPv6 address</th>
<th>IPv4 address</th>
</tr>
</thead>
<tbody>
<tr>
<td>b.iana-servers.net</td>
<td>2001:500:8d::53</td>
<td>199.43.133.53</td>
</tr>
<tr>
<td>c.iana-servers.net</td>
<td>2001:500:8e::53</td>
<td>199.43.134.53</td>
</tr>
<tr>
<td>ns.icann.org</td>
<td>2001:500:89::53</td>
<td>199.43.138.53</td>
</tr>
<tr>
<td>a.iana-servers.net</td>
<td>2001:500:8f::53</td>
<td>199.43.135.53</td>
</tr>
</tbody>
</table>

IPv6 reachability of name servers

Verdict:
All name servers that have an IPv6 address are reachable over IPv6.

Test explanation:
We check if all name servers, that have an AAAA record with IPv6 adress, are reachable over IPv6.

Web server

IPv6 addresses for web server

Test your connection

Start test

Further website testing

IPv6:
- IP6.nl
- NAT64 Check
- IP address visibility

DNSSEC:
- DNSViz
- Zonemaster

HTTPS:
- Observatory by Mozilla
- SSL Labs

Security options:
- CSP Evaluator
- Analyze your CSP
Batch test

- RESTful API for testing large sets
- Periodically tests all Dutch Government domains
- In future API open for larger audience
Adoption rate (email standards)

Percentage Begin 2018  Percentage September 2018  Percentage Maart 2019

DKIM  SPF  DMARC  SPF Policy  DMARC Policy  DNSSEC MX  STARTTLS  STARTTLS cf NCSC  DANE
Adoption rate (email total)
Planned

• Redesign to aid translation
• Open Source: Released Now
  – https://github.com/NLnetLabs/Internet.nl
Test site: www.internet.nl

More info: www.internet.nl/about

Email: question@internet.nl
Questions?