



ZONEMASTER

INTERNET 
STIFTELSEN *afnic*

Zonemaster updates

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Keep DNS healthy

- DNS is crucial for all services on Internet
- "Network issue" could be a DNS issue
- DNS is complex to troubleshoot
- DNSSEC makes it even harder

We need a way to check.

Zonemaster is a DNS tool to check DNS health

- Zonemaster checks the delegation
- Zonemaster verifies that all name servers give consistent responses
- Zonemaster verifies that all name servers respond to queries
- Zonemaster verifies DNSSEC

 Zonemaster does not check resolvers

https://zonemaster.net



Domain check [FAQ](#)

Da | En | Es | Fi | Fr | Nb | Sv

Domain name

icann.org



Check

Options

About Zonemaster

Give your domain a complete physical! Zonemaster helps you to control how your website is doing. As a bonus, you also

After a minute or a couple of minutes...

The screenshot displays the monitoring interface for icann.org. At the top left, the domain 'icann.org' is shown with a timestamp '2022-06-12 15:05 GMT+02:00'. To the right are buttons for 'History', 'Export', and 'Share'. Below these are filters for severity levels: 'All' (147), 'Info' (97), 'Notice' (6), 'Warning' (44), 'Error' (0), and 'Critical' (0). A search bar labeled 'Filter text' is present. The main content area lists several system categories, each with a plus sign and a colored vertical bar on the left: 'SYSTEM' (green), 'BASIC' (green), 'ADDRESS' (blue), 'CONNECTIVITY' (green), and 'CONSISTENCY' (green).

Zonemaster can meet several needs

- Troubleshooting
- Monitoring
- Statistics and measurements
- Check your domain
- Verify that a new domain is ready to be used
- Check all domains under your TLD

Who is behind Zonemaster?

Since 2013 Internetstiftelsen in Sweden (.se and .nu) and Afnic in France (.fr, .re and others) together develop and maintain Zonemaster as a modern tool.

It is an open-source tool available on Github, and others contribute to the development of Zonemaster

Features of Zonemaster

- All tests are based on standards and best practices
- All tests are defined as written specifications available at Github
- Modular built to be possible to integrate parts in other tools for different needs
- Actively maintained with releases twice a year – latest release 2022-06-10
- Translated into several languages (Danish, English, Finnish, French, Norwegian, Spanish and Swedish)

CDS/CDNSKEY

CDS or CDNSKEY is the key to let the registrant control the update of the DS record even when the domain is not hosted by the registrar.

CDS/CDNSKEY can be used to boot strap DNSSEC (adding DS in parent zone) or updating existing DS.

CDS/CDNSKEY testing in Zonemaster

New test cases have recently been added that tests against the RFCs:

- Existence of CDS and CDNSKEY
- Validate CDS and CDNSKEY
- Validate trust from DS to CDS and CDNSKEY

CDS/CDNSKEY testing in Zonemaster

The DNS operator (or registrant) of a domain under a TLD with CDS or CDNSKEY support can verify the setting.

TLD policy is outside Zonemaster testing, e.g. requirements for DS boot strapping.

All tests are defined as test cases with detailed specification. See Github for the specifications.

Improved tests

Several tests have been improved during the last couple of releases.

- Improved logic
- Improved messages
- Make the tests output fewer and more focused messages

Can speak more languages

Zonemaster is designed from ground to be translated. Now it can speak seven languages, the latest addition is Spanish.

Zonemaster depends on volunteers from ccTLDs to do the translation, that is how it is translated into Danish, Finnish, Norwegian and Spanish.

You can do your private translation for your private installation, or you can contribute and have your language being included in the releases of Zonemaster.

Many installations around the world

The zonemaster.net installation is only one of several installations of Zonemaster. Some of them are installation of GUI available to anyone, others are private installations or integrated installations.

GUI, CLI or integration in a system

The Zonemaster web GUI is not the only way to use Zonemaster. Zonemaster is available as a CLI tool too. The CLI is of course more light weight and easier to install.

Zonemaster is also used as an integrated tool. There are several ways to integrate Zonemaster depending on needs.

- Directly integrating Zonemaster-Engine Perl libraries.
- Wrap around the Zonemaster-CLI tool.
- RPC-API calls to Zonemaster-Backend (as the GUI does), which also includes database storage of completed tests.

Zonemaster on Docker

Zonemaster CLI is now available on Docker Hub to be by any system with support for Docker. If you have Docker installed on your laptop, just run the following to test “icann.org”:

```
❏ docker run -t --rm zonemaster/cli --no-ipv6 icann.org
```

(Docker has no support for IPv6 unless you run it on Linux laptop. Limitation of Docker, not of Zonemaster.)

<https://github.com/zonemaster/zonemaster-cli/blob/master/USING.md>

Results are stored in a database

Tests run from the GUI or directly to Zonemaster-Backend are stored in a database. The results can be retrieved later.

A special link to the GUI can reach the test run.

Improved batch function

The batch functions of Zonemaster backend have been approved to increase the load of the server.

If you want to test all or parts of the domains of your TLD, the batch function could be useful.

If you start a batch of domains, the results are stored in a database and can be read from the GUI. Links to the specific test could be sent to the registrant or made available on a web page.

Availability of Zonemaster

- Published as open source with full documentation and full installation instructions on Github <https://github.com/zonemaster/zonemaster>
- Permissive license to be installed as-is or for other use
- Reference installation on <https://zonemaster.net/>
- Internetstiftelsen has a customized GUI using the standard Zonemaster backend and engine on <https://zonemaster.iis.se/>



Thank you!

Questions?

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