# Zonecheck, testing a DNS zone

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16 november 2006

# Why testing a DNS zone?

- To be sure it works,
- To be sure it works fast (no timeouts or retransmissions).

It is not because “it works” that everything is perfect.

# The requirments

When we started designing the new Zonecheck in 2002 (version 2, a program by the same name, but completely different, existed before):

- Command-line (so it can be run everywhere) and Web tool,
- Free software,
- Quite general tool, not a small ad hoc hack,
- Separated policy and engine (more on that later).

# The result

- Made by Stéphane d'Alu,
- Written in Ruby,
- Available under the GPL free licence, a very important point, since it allows people to run it at their site and to do the same tests as AFNIC does,
- Hosted at the hosting service Savannah,
- Used in daily production at AFNIC since.

# Engine, not policy

**Zonecheck is an engine, not a policy**

This is probably the main feature of Zonecheck: unlike all the other similar tools, the policy is not hardwired in the code.

The code defines the tests you **can** run, the configuration file defines the tests you **do** run and their result (fatal error or just a warning).

# Example of configuration

```
<check name="icmp" severity="w" category="connectivity:l3"/>
<check name="udp"  severity="f" category="connectivity:l4"/>
<check name="tcp"  severity="f" category="connectivity:l4"/>
```

A program can translate this configuration file to HTML, for information of the users.

# Using it to check delegations from a registry

AFNIC uses Zonecheck **prior** to every delegation. One fatal error and the domain is not created. (Every name server change triggers a Zonecheck, too.)

The policy is quite strict. A few examples:

- TCP connectivity is mandatory,
- If the server is recursive, a lot of tests occur (such as wether the loopback address is delegated in in-addr.arpa).

This creates a lot of support tickets when delegating and allow us to measure the current level of knowledge of some registrars :-)

But it makes a much better zone and strongly diminishes the post-registration complaints “My site does not work”.

# Lessons for IANA checks

Context: IANA asks for comments about delegation checks (`http://www.icann.org/announcements/announcement-18aug06.htm`).

Many registries asked that such tests must be clearly described, and executed in a predictable way. An automatic tool, such as Zonecheck, allows to fulfill these requirments.

Remember that using Zonecheck does not mean using AFNIC policy.

# Other users

- `.de`
- `.ch`
- `.no`

## Tomorrow, you?

`http://www.zonecheck.fr/`