

CODEV-NIC free registry software

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2 March 2006

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The target

The small or medium DNS registry for a TLD (Top-Level Domain)

Managing a TLD is possible even in a small country, with few resources. A lot of value for a small investment.

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- ▶ A few applications like the whois server, a DNS zone file generator. . .

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CODEV-NIC tries to address #1, #3 and #4 and may be indirectly #5 and #6.

No fatality

A ccTLD is manageable with low-tech systems

Small machines and simple software

Set of requirements

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5. Co-developed (no outsourcing, real co-development).

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- ▶ Automatic expiration or explicit deletion ?
- ▶ Personal data protection.

Existing software

- ▶ OpenReg, ISC

<http://www.isc.org/index.pl?/sw/openreg/> Very good software but :

- ▶ Only one registration policy (basically the one of “org”),
- ▶ No interface for the registry staff or for the ordinary user (you have to develop it as an EPP client or as a message bus component),
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- ▶ registro.br : non free

The project

Four teams (three actually) in different countries. This is co-development : the best way to be sure the software is suitable for the users.

- ▶ NIC-CI (Ivory Coast)
- ▶ NIC-MG (Madagascar)
- ▶ AFNIC (France), manager.

Most of the money came from the French government.

The process

First, a one-month workshop (Feb. 2005) to discuss, prototype, brainstorm.

Participants came from seven NIC : Haiti, Algeria, Ivory Coast, Gabon, Madagascar, Mauritania, France.

Then, development, with various groupware tools (Subversion, Request Tracker, mailing lists, IRC session).

Poor Internet connectivity was a big problem in Madagascar.

The Ivory Coast developers worked during a civil war.

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Continous integration testing automatically, every day

`http://www.martinfowler.com/articles/
continuousIntegration.html`.

The configuration file

Technical and policy choices are there.

Most parameters are static : you cannot change them afterwards.

```
tld=example
idn = false
have_registrars= true
registrar_manages_contacts = true
```

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- ▶ Integrity constraints, as far as SQL goes (triggers and stored procedures),
- ▶ Not really portable (impossible with SQL),
- ▶ Use of Cheetah templates to implement multi-policy.

The library

Every access to the database (except read-only accesses) goes through the library.

One Python class per type of object : Domains, Contacts, Nameservers. . .

Hooks for the local customization.

The XML-RPC server

The only external interface is a XML-RPC server (an email interface is planned).

People outside of the registry (registrars, authorized users) can read and write in the database.

Asynchronous operations

For instance, transfers between registrars.

CODEV-NIC relies on an existing tool : Request Tracker.

That way, we do not have to reinvent the wheel. Request Tracker is easily interfactable, thanks to scripts.

Deployment

Operational today in Ivory Coast (starting in February 2006).

In Madagascar may be this year.

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But it is free software, you are welcome to help.