#### ccTLD Constituency 11.11.2001





# **Current Situation**

- Secondary service is very often a voluntary agreement
- People who knows each other
- Standard configuration works
- Increase of load causes problems



# **Current Problems**

- No defined service level agreements
- No coordinated monitoring of the systems according to
  - load
  - logging
  - security incidents
- No influence which software or hardware is used on the remote systems
- No information about personal or organizational changes



## **Current Problems**

- Relying on standard zone transfer
  - usually no compressed transfers
  - no secure or redundant transfer
  - no emergency shutdown
- Problems occurred if zonefile size is bigger than the "standard"
- No optimal placing according to the global Internet infrastructure
- Problems only seen by an "outside view"



# The Ideal World

TLD nameservers

- are ran by the responsible registry
- are running on different hardware
- are running under different software (at least releases)
- will be checked by different consistency algorithms
- are located on ideal places according to the needs of the TLD and the global Internet infrastructure



# The Ideal World

The advantages are

- Security and reliability are controlled and documented by regular checks
- Through the heterogeneous implementation security incidents will not destroy the whole system
- Load problems will be seen and fixed in advance
- The reactions can be very fast by security or other incidents
- The staff maintaining the system is on a similar level an can be trained according to the current situation



### Problems with the Ideal Approach

- Running servers on various places in the world is
  - expensive
  - a technical problem
  - a logistical problem
- Difficult as an initial approach
- Exchange of information is necessary



## The First Ideas

- 9/1999 Technical CENTR Meeting
- 11/1999 Meeting in Frankfurt Workplan discussed
- in 2000 First test installations in Frankfurt (managed by ATNIC), Vienna and Amsterdam (manage by DENIC)
- in 2001 Workplan to organize servers in US and Asia



### SSS – Shared Secondary Service

- Server administered and financed by one TLD admin
- The service one system can be shared by a limited amount of registries
- Access can be granted for administrative purposes so each registry is able to monitor their services



### SSS – Shared Secondary Service

**Technical Principles** 

- several nameserver processes running in an own chroot environment
  - running on an own virtual IP interface
  - separate configuration files and zone files accessible for the TLD admin
  - own logfiles available
  - different software choice is possible



Advantages

- running 2-3 secondaries as SSS-admin and participate in other 6-9
  - up to 13 servers per TLD
  - financial and personal advantages
- possibility for same policy and software for each nameserver of the TLD



Advantages

- possibility for compressed or incremental zonefile exchange
- asap reactions possible
- separate statistic- and logdata available



Disadvantage

- not the "highest" security level needs trust in the operators of the different zone (therefore a limit of 3-5 per box seems sensible)
- but a huge improvement of the current situatio
- more security and reliability than the voluntary solution.



### SSS – Shared Secondary Service

First Results

- On a test system bind 8.2 works fine
- Some minor modifications in the named control scripts need to be done to raise the security
- Automatical monitoring service must be developed



### Questions

