WHAT IS YADIFIA

- A CLEAN NAME SERVER IMPLEMENTATION
- RFC COMPLIANT
  - Resource records (A, AAAA, NS, CNAME, …, SPF, SRV, NAPTR, …)
  - Zone transfers
  - DNSSEC
  - Dynamic updates
- SECURE
  - TSIG
  - ACLs
- MULTI PLATFORM
- BSD OPEN SOURCE LICENSE
- SOLUTION FOR SEVERAL “USE CASES”
DYNAMIC ZONE MANAGEMENT

- ADDING AND REMOVING ZONES (DOMAIN NAMES)
  - Without stopping and restarting the name server
  - Without interruption in answering queries or (major) performance drop
  - Maintaining high levels of security
  - Compatible with DNSSEC
  - Both as Master as well as Slave name server
  - Configure access and security rules
    - IP address filters
    - Encryption keys
DYNAMIC ZONE MANAGEMENT

- USE DNS PROTOCOL ITSELF

Add somedomain.eu
YADIFA1 : slave of PM
YADIFA2 : slave of YADIFA1
YADIFA3 : slave of YADIFA1

Add somedomain.eu
YADIFA1 : slave of PM

Add somedomain.eu
YADIFA1 : slave of YADIFA1

Add somedomain.eu
YADIFA1 : slave of YADIFA1

Add somedomain.eu
YADIFA1 : slave of YADIFA1

somedomain.eu
IXFR/AXFR

somedomain.eu
IXFR/AXFR

somedomain.eu
IXFR/AXFR

somedomain.eu
IXFR/AXFR
DYNAMIC ZONE MANAGEMENT

Controller

demo1.eu | ZONETYPE | master

YADIFA 10.1.2.53

YADIFA 10.1.2.54

CTRL

DYNAMIC UPDATE

STANDARD QUERY

ZONE CHANGE NOTIFICATION

IN

STANDARD QUERY
DYNAMIC ZONE MANAGEMENT
DYNAMIC ZONE MANAGEMENT

Controller

demo1.eu | ZONETYPE | master

demo1.eu | CFGMERGE

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<table>
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<tr>
<th>Zone</th>
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<td>Prerequisite</td>
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<tr>
<td>Update</td>
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<tr>
<td>Additional Data</td>
</tr>
</tbody>
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**Domain Name System (query)**

```
[Response In: 60847]
Length: 26
Transaction ID: 0x0100
Flags: 0x0000 Standard query
0... ... ... ... = Response: Message is a query
.000 0... ... ... = Opcode: Standard query (0)
... .0. ... ... = Truncated: Message is not truncated
... ... .0 ... ... = Recursion desired: Don't do query recursively
... ... 0. ... ... = Z: reserved (0)
... ... ... 0 ... ... = Non-authenticated data: Unacceptable

Questions: 1
Answer RRs: 0
Authority RRs: 0
Additional RRs: 0

Queries
```
DYNAMIC ZONE MANAGEMENT

Controller

demo1.eu | ZONETYPE | master

demo1.eu | NOTIFY | 10.1.2.54
demo1.eu | SLAVES | 10.1.2.54

demo1.eu | CFGMERGE

YADIFA 10.1.2.53

YADIFA 10.1.2.54

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demo1.eu | SLAVES | 10.1.2.54

DYNAMIC UPDATE

STANDARD QUERY

ZONE CHANGE NOTIFICATION

demo1.eu | AXFR

demo1.eu | AXFR

STANDARD QUERY

IN

demo1.eu | CFGMERGE

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Domain Name System (query)

[Response In: 67802]
Length: 92
Transaction ID: 0x6745

- Flags: 0x2800 Dynamic update
  0... ....... ....... = Response: Message is a query
  .010 1... ....... = Opcode: Dynamic update (5)
  ......0. ....... = Truncated: Message is not truncated
  ......0 ....... = Recursion desired: Don't do query recursively
  ...... .0 ....... = Z: reserved (0)
  ...... ....... = Non-authenticated data: Unacceptable

Zones: 1
Prerequisites: 0
Updates: 2
Additional RRs: 0

Zone

demo1.eu: type SOA, class Unknown (42)
  Name: demo1.eu
  Type: SOA (Start of zone of authority)
  Class: Unknown (0x002a)

Updates

demo1.eu: type Unknown (10755), class Unknown (42)
  Name: demo1.eu
  Type: Unknown (10755)
  Class: Unknown (0x002a)
  Time to live: 0 seconds
  Data length: 21
  Data

demo1.eu: type Unknown (10758), class Unknown (42)
  Name: demo1.eu
  Type: Unknown (10758)
  Class: Unknown (0x002a)
  Time to live: 0 seconds
  Data length: 21
  Data
DYNAMIC ZONE MANAGEMENT

Controller

demo1.eu | ZONETYPE | master

demo1.eu | CFGMERGE

demo1.eu | NOTIFY | 10.1.2.54
demo1.eu | SLAVES | 10.1.2.54

demo1.eu | CFGMERGE

YADIFA
10.1.2.53

CTRL

DYNAMIC UPDATE

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IN
STANDARD QUERY

YADIFA
10.1.2.54

EURid vzw - Peter Janssen
RIPE (2^6 + 2) – 15/05/2013
DYNAMIC ZONE MANAGEMENT

Controller

demo1.eu | ZONETYPE | master

demo1.eu | CFGMERGE

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demo1.eu | SLAVES | 10.1.2.54

demo1.eu | CFGMERGE

demo1.eu | CFGMERGE

YADIFA 10.1.2.53

demo1.eu | AXFR

demo1.eu | AXFR

demo1.eu

YADIFA 10.1.2.54

demo1.eu | AXFR

demo1.eu | AXFR

CTRL

DYNAMIC UPDATE

STANDARD QUERY

ZONE CHANGE NOTIFICATION

IN

STANDARD QUERY
Dynamic update TYPES:
- ZONETYPE
- ZONEFILE
- ZONENOTIFY
- MASTER
- SLAVES
- DNSSEC
- COMMENT
- SIGINTV
- SIGJITR
- NTFRC
- NTRFRP
- NTRFRPI
- ACLQUERY

Query TYPES:
- SHUTDOWN
- RELOAD
- LOGREOPEN
- FREEZE
- UNFREEZE
- FREEZEALL
- UNFREEZEALL
- CFGMERGE
- CFGSAVE
- CFGDROP
- CFGMERGEBALL
- CFGSAVEALL
- CFGDROPALL
- CFGLOAD
HTTP://YADIFA.EU
INFO@YADIFA.EU
YADIFA-ANNOUNCE
YADIFA-USERS
YADIFADNS
@YADIFAdns