

Y:A:D:I:F:A



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Ljubljana, RIPE 64, April 18 2012



A new DNS implementation

■ Primary Design goals

- “drop-in” replacement for BIND and NSD
- Standards (RFC) compliant
- Performance (queries ~ TLD level)
- Authoritative
- DNSSEC support
- AXFR/IXFR support (master and slave)
- (BIND) zone files as storage

■ Secondary goals

- Dynamic update API (update content of zones on the fly)
- Dynamic provisioning (add/remove zones on the fly)
- “higher level storage” backend (sql db, ...)
- Recursive caching resolver?

Current Status - Features

- Authoritative
- Load/parse zone files (BIND style files)
 - Include, *, @, /
 - Resource record types
 - SPF, SRV, NAPTR
 - SOA, A, AAAA, NS, CNAME, PTR, HINFO, MX, TXT
 - DNSKEY, DS, RRSIG, NSEC, NSEC3, NSECPARAM
- Zone transfer
 - Master & Slave, AXFR / IXFR
 - Notify, TSIG
- Nsupdate (add, remove RR)
- DNSSEC
 - RSASHA1(5,7)
 - Online re-signing

Current Status - 1.0 RC2

- YADIFA 1.0 RC2 packages available on yadifa.eu

x86 64bit

- ☒ CentOS 5
- ☒ CentOS 6
- ☒ Debian 6
- ☒ Ubuntu
- ☒ FreeBSD
- ☒ OSX Lion

x86 32bit

- ☒ CentOS 5
- ☒ CentOS 6
- ☒ Debian 6

Coming up

- “Near Future” (coming months)
 - DSA/SHA1, DSA-NSEC3-SHA1, RSASHA256, RSASHA512
 - Full client to “control” the name server daemon (1.0 does stop and reload)
 - Dynamic zone management (add/remove zones on the fly)
- “Not so Near Future”
 - Caching resolver
 - Validating
 - Sql backend API
- End June 2012
 - BSD open source

Load times comparison

- .com zone file (198 million lines)

	Prepare	Load	Ready
BIND 9.8.1		38m40s	38m40s
NSD 3.2.8	36m58s	12m03s	40m01s
YADIFA 0.8		8m26s	8m26s

- 100.000 zones (7 RR)

	Prepare	Load	Ready
BIND 9.8.1		37s	37s
NSD 3.2.8	8s	2s	10s
YADIFA 0.8			4s

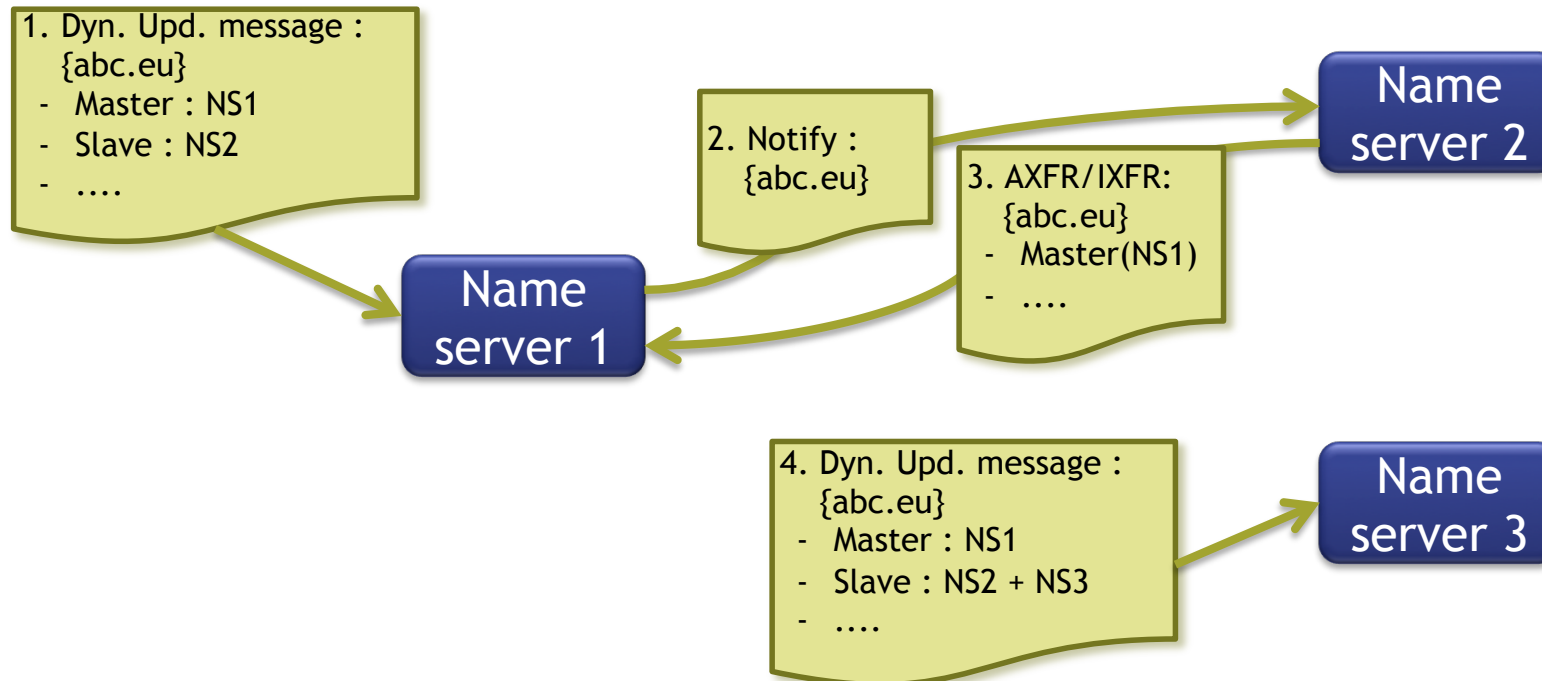
(Dual Xeon 2.1Ghz, 48Gb, Linux Debian) EURid Feb. 2012

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Dynamic Provisioning

- Adding and removing zones
 - Without interrupting “production”
 - Centrally managed
- Extension of RFC 2136
 - “Dynamic Updates in the Domain Name System (DNS UPDATE)”
 - Extend existing channel to “master”
 - (Re)use existing channel between “master” and “slave”

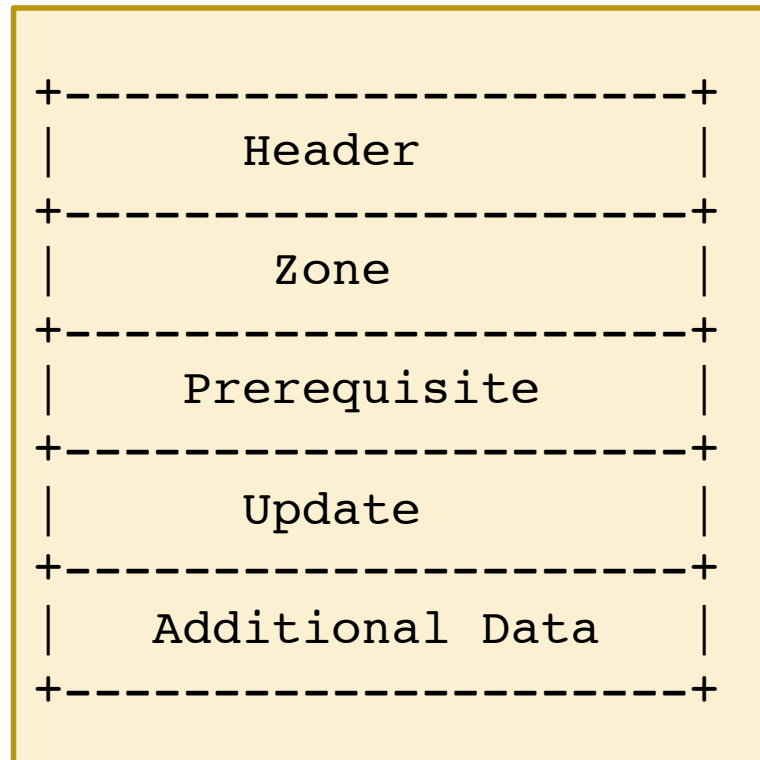
Dynamic Provisioning



All name servers are configured with a minimal set of access control rules

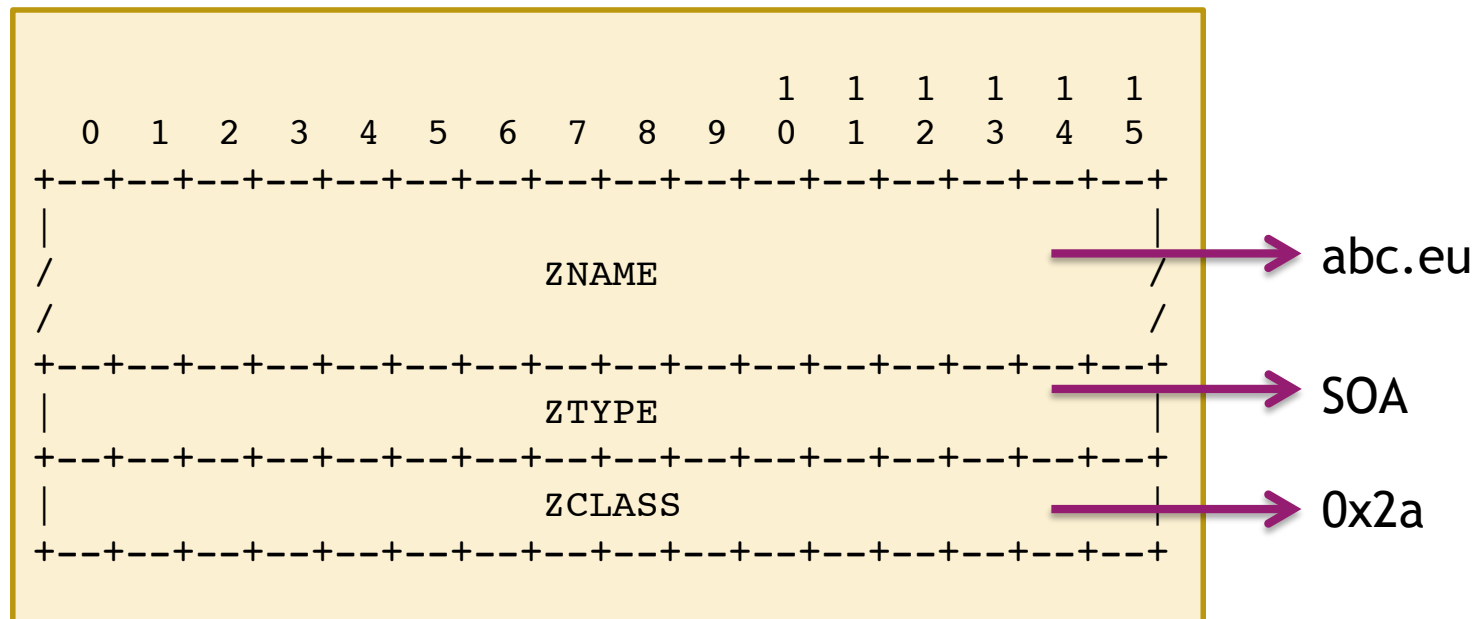
Dynamic Provisioning

■ Dynamic Update Message



Dynamic Provisioning

■ Zone Section

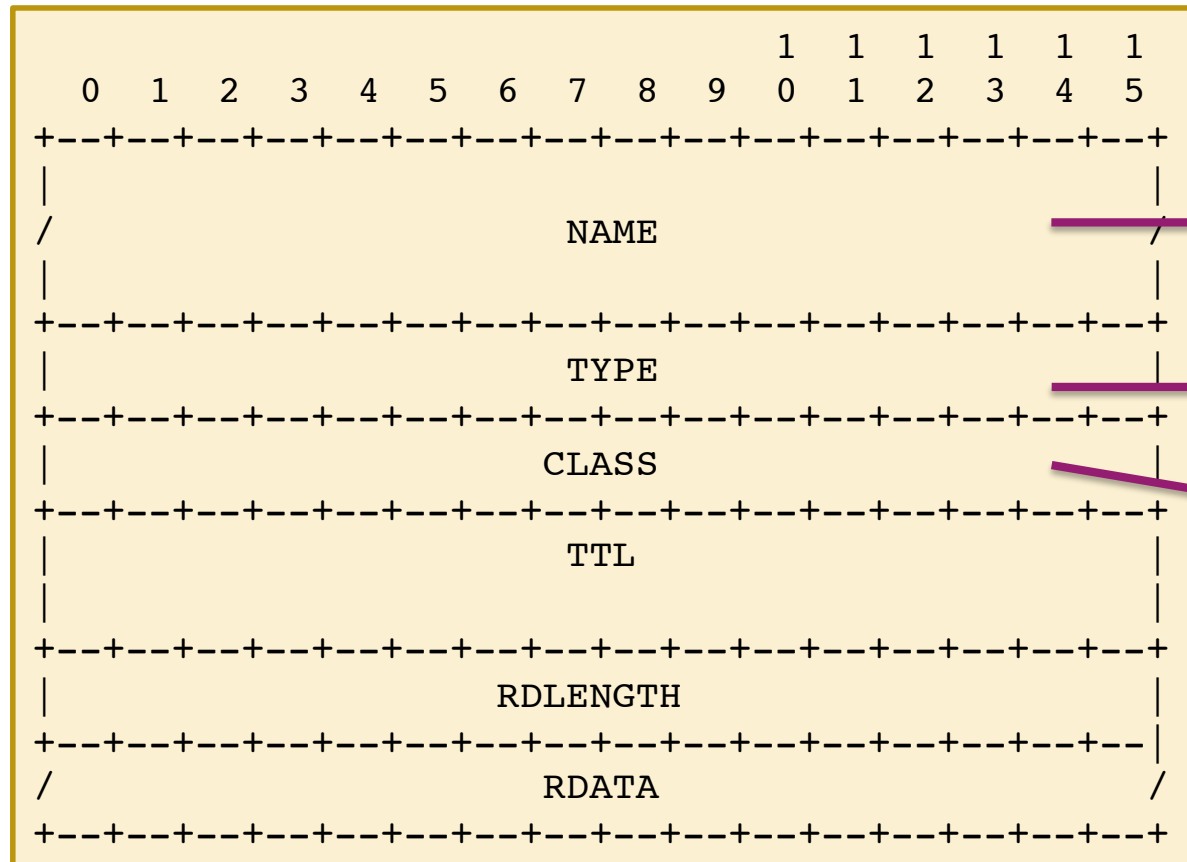


Dynamic Provisioning

- Prerequisite Section
 - When adding -> should not exist
 - When removing -> should exist
 - ...

Dynamic Provisioning

■ Update Section



Dynamic Provisioning

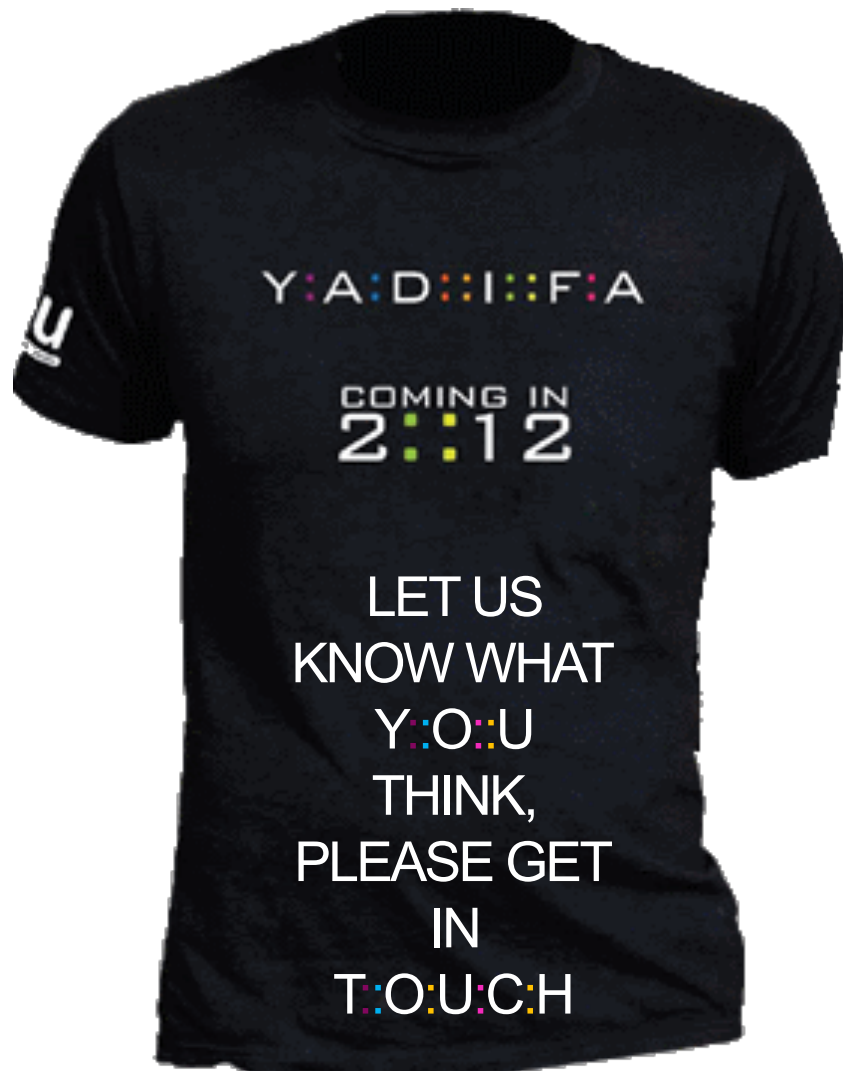
■ Update Section

TYPE	RDATA
zonetype	Master Slave
zonefile	Zone file full name
zonenotify	IP address, TSIG
master	IP address, TSIG

Dynamic Provisioning

- “Activate” new configuration
- “Query like” message
 - NAME : abc.eu
 - CLASS : 0x2a
 - TYPE : freeze | unfreeze | merge | save
- Check status
 - NAME : <STATUS>
 - CLASS : 0x2a
 - TYPE : <whatever you need to follow up and check on>

One slide to say it all.....



URL : <http://www.yadifa.eu>
EMAIL : info@yadifa.eu
Mailinglists : yadifa-announce, yadifa-users

yadifa.eu.

NS ns.yadifa.eu.

NS yadifa.eurid.eu.

yadifa.eu DNS is served by YADIFA!

YADIFA 1.0 RC binaries available now

☒ CentOS (32&64bit)

☒ Debian (32&64bit)

☒ freeBSD (64bit)

☒ osX(Lion) (64bit)

YADIFA 1.2

☒ BSD open source license

☒ June 2012