DNSSEC, Where does AfriNIC stand

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AfriNIC

AfriNIC and DNS

- Provides RDNS services for v4 and v6 spaces
- For v4, manages zones:
  - 41.in-addr.arpa.
  - 196.in-addr.arpa.
  - 197.in-addr.arpa.
  - 105.in-addr.arpa.

  Participates in the inter-RIRs ERX space RDNS management system
- For v6, manages zones:
  - 0.c.2.ip6.arpa.
  - 2.4.1.0.0.2.ip6.arpa.
  - 3.4.1.0.0.2.ip6.arpa.

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DNSSEC at AFRINIC
ToDo

- Sign the zones we manage

- Send DS records to parent zones ip6.arpa. and in-addr.arpa.

- Change to the provisioning systems to accept DS from members on domain objects
  - Through MyAFRINIC portal
  - Domain objects update through e-mail

- Update the Inter-RIRs ERX RDNS system to collect and send DS records from/to majority RIR

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DNSSEC at AFRINIC
New domain object

domain: [mandatory] [single] [primary/look-up key]
descr: [mandatory] [multiple] [ ]
org: [optional] [multiple] [inverse key]
admin-c: [mandatory] [multiple] [inverse key]
tech-c: [mandatory] [multiple] [inverse key]
zone-c: [mandatory] [multiple] [inverse key]
nserver: [optional] [multiple] [inverse key]
ds-rdata: [optional] [multiple] [inverse key]
sub-dom: [optional] [multiple] [inverse key]
dom-net: [optional] [multiple] [ ]
remarks: [optional] [multiple] [ ]
notify: [optional] [multiple] [inverse key]
mnt-by: [mandatory] [multiple] [inverse key]
mnt-lower: [optional] [multiple] [inverse key]
refer: [optional] [single] [ ]
changed: [mandatory] [multiple] [ ]
source: [mandatory] [single] [ ]

Add a DS attribute to the domain object

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DS-rdata attribute

ds-rdata

DS records for this domain.

<Keytag> | <Algorithm> | <Digest type> | <Digest> | ; <Comment>

Keytag is represented by an unsigned decimal integer (0-65535).

Algorithm is represented by an unsigned decimal integer (0-255) or one of the following mnemonics:
RSAMD5, DH, DSA, ECC, RSASHA1, INDIRECT, PRIVATEDNS, PRIVATEOID.

Digest type may be represented by a unsigned decimal integer (0-255) and is usually 1, which stands for SHA-1.

Digest is a digest in hexadecimal representation (case insensitive). Its length varies for various digest types.
For digest type SHA-1 digest is represented by 20 octets (40 characters, plus possible spaces).
For more details, see RFC4034.

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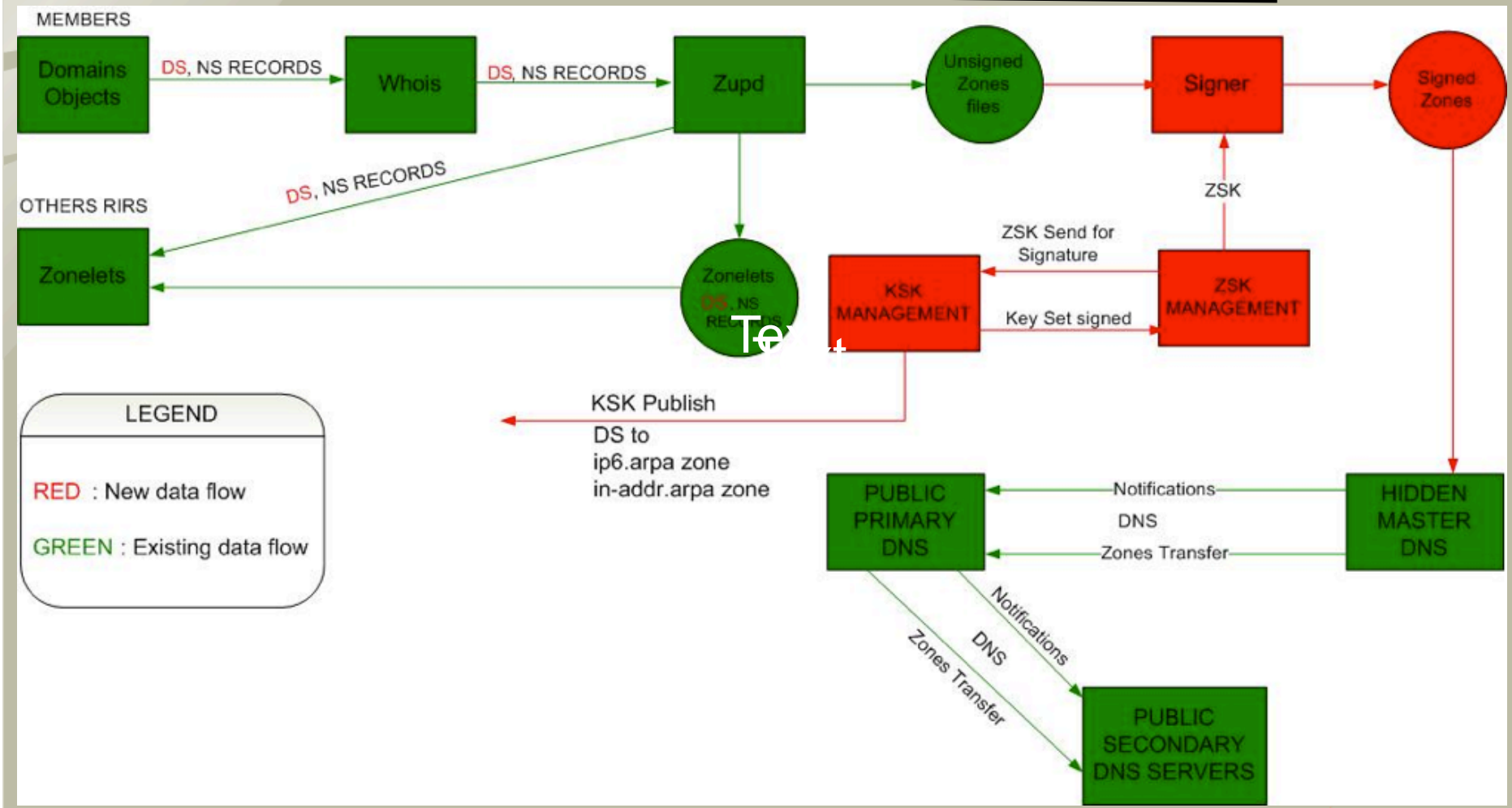
DNSSEC at AFRINIC Architecture



DNSSEC at AFRINIC
Key Management

HSM

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Parent zones situation

- .arpa is signed, but DS is not published in root zone. key is DLV registry
- ip6.arpa. is signed and has DS in .arpa. zone
- in-addr.arpa. not signed

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AFRINIC's Roadmap for DNSSEC

- **End of December 2010** – Adopt the project document and deployment plan

- **End of March 2011**- Ready to accept DS from members

Will you be the first to send DS to our RDNS zones ?

Questions ?

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