

# **AfriNIC 11**

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# **DNS Operations**

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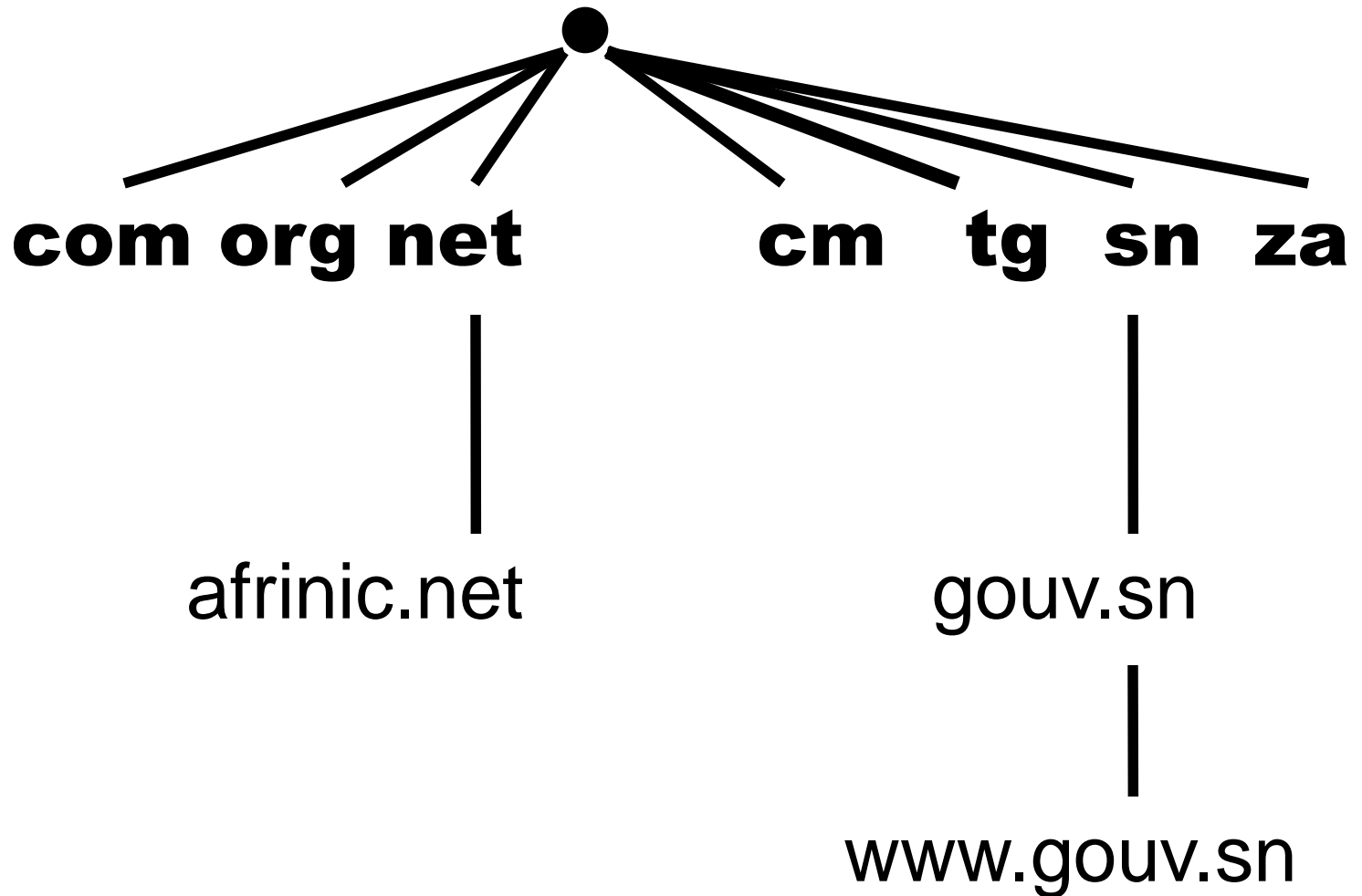
Eland Systems

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# Domain Name System

- Lookup service
- Globally unique public name space

# DNS Tree



# Domain names

- Hostname [A – Z] [0 – 9] hyphen
- US ASCII
- IDN

# Terminology

- DNS label

**www . gouv . sn**  
.....

- DNS Zone

**www . afrinic . net**  
**meeting . afrinic . net**

# DNS Query

QNAME	QCLASS	QTYPE
<a href="http://www.afrinic.net">www.afrinic.net</a>	IN	A

```
dig -t A www.afrinic.net
```

```
:: QUESTION SECTION:
```

```
;www.afrinic.net.      IN      A
```

```
:: ANSWER SECTION:
```

```
www.afrinic.net.      86400  IN      A      196.216.2.1
```

```
:: Query time: 80 msec
```

```
:: MSG SIZE rcvd: 340
```

# Name Servers

```
dig -t ns sn
```

```
:: QUESTION SECTION:
```

```
;sn.                IN      NS
```

```
:: ANSWER SECTION:
```

```
sn.                 67264  IN      NS      ns.sentoo.sn.
```

```
sn.                 67264  IN      NS      ns-sn.ripe.net.
```

```
sn.                 67264  IN      NS      ns1.ird.fr.
```

```
sn.                 67264  IN      NS      ns3.nic.fr.
```

```
sn.                 67264  IN      NS      ns.ucad.sn.
```

# Transport Protocols

- UDP

  - 512 octet payload

- TCP



# EDNS0

- Extension Mechanism for DNS allows the transport of larger DNS packets over UDP

# What could go wrong?

- Root servers
- Authoritative servers
- misconfiguration
- firewalls
- Unreachable servers
- Domain Name Registry

# **DNS Operations**

**Thank you**