

# *IPv6 Implementation in CO.ZA*

Ensuring that your registry is not in the critical path to IPv6 adoption

CO.ZA Registry  
<http://www.coza.net.za>

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# *The problem - education?*

Subject: TT080409-000091: Ticket Notification - Customer Centre

=== TiX Ticket History and Updates ===

On 09-04-2008 11:27, <deleted> wrote :

Hi David,

Can you be specific on what you want. Is it 6 additional ips on top of this range

196.7.x.x/29

<address>196.7.x.x</address>

<netmask>255.255.255.248</netmask>

# Overview

- IPv6 for a registry entails
  - DNS resolution
  - IPv6 glue registration
  - IPv6 glue provision in the resolution
  - requires IPv6 transit
- Services via IPv6 (web, whois)

# *Critical Path*

- In order for IPv6 adoption to be widespread, names need to resolve to IPv6 addresses
- Registries are in this critical path

# ***DNS Resolution***

- Authoritative server software needs to be IPv6 capable
- OS as well
- Network hardware (and software)
- .....fortunately, most of the needed software is already IPv6 capable.....

# *IPv6 Glue Registration*

- Registry software needs to understand IPv6
- Policies need to cater for IPv6 Registration
- Syntax checking and parsing is different
  - 2001:cafe::f00d vs 192.168.0.1

# Services

- web
- network (dhcp vs IPv6 autoconfig)
- resolvers
- whois

# *Some Technical Gotcha's*

- network autoconfig
- explicit binding of services to ports
  - apache listen directive
  - bind listen directive
- Routers
  - needed upgrading to properly handle



# *Some Policy Gotcha's*

- Obtaining IPv6 Address space
  - required engaging AfriNIC community re micro-allocation
  - now solved
- Routing allocation obtained
  - our allocation still not visible to ~10% of the Internet

# *Recommendations*

- Do any policies
  - eg what delegation checking
- Ensure your hardware can handle
  - eg CISCO IOS/memory
- Ensure your registry can handle glue
- Ensure your resolution services can handle IPv6

# Statistics

- About 10% of all queries are via IPv6 transport
- @ Wed 28 May 2008,  
From 412 620 domains:
  - 2868 A records in 1524 domains
  - 4 AAAA records in 2 domains  
( used by 1630 domains )

*Questions?*

*Suggestions?*