

## IPv4 and IPv6 Glue

### *Introduction*

The SRS accepts nameserver details for domains by allowing registrars to specify a number of nameservers. Each nameserver must contain information for a fully qualified domain name field (FQDN), and may also provide details of an IPv4 field (IP4Addr address Glue Record) or an IPv6 field (IP6Addr address Glue Record).

### *IPv4 Glue*

The IP4Addr is always acceptable, but it is only required if the nameserver is “self-serving”. I.e. IP4Addr Glue records are needed when the authoritative nameserver for a zone is within the zone itself.

The DNS and the SRS systems will ignore all IP4 addresses that are not required (if a nameserver is not “self-serving”). The following are the SRS rules for IPv4:

- 1 The IP4Addr will only be stored in the SRS if IP addresses are required (the nameserver is “self-serving”).
- 2 If an IP4Addr is supplied as part of an update transaction request and it is not required (is not “self-serving”) then the IP4Addr will be ignored and not stored in the SRS.

The following scenarios show what will occur if an update (or create) transaction for a domain contains nameserver changes.

1. The domain update would be accepted if the nameservers in the updated request were for the same name as the domain and IPv4 addresses were included.

NOTE - The SRS would store the IPv4 addresses.

2. The domain update would be rejected if the nameservers in the updated request were for the same name as the domain and no IPv4 addresses were included.

3. The domain update would be accepted if the nameservers in the updated request were for a different name to the domain and IPv4 addresses were included.

NOTE - The SRS would IGNORE the IPv4 addresses and not store them.

4. The domain update would be accepted if the nameservers in the updated request were for a DIFFERENT name to the domain and NO IPv4 addresses were included.

## *IPv6 Glue*

NZRS have added support of IPv6 glue records to the SRS and DNS. The adoption of IPv6 Glue will allow for registrants who wish to start investing in IPv6 technology.

Registrants via their Registrars can provide IPv6 Glue records to the SRS, and this information will be included in the zone files output from the SRS.

The following are the SRS rules for IPv6:

- 1 The IP6Addr is not a required field. The IP6Addr will only be stored in the SRS if IP addresses are required (the nameserver is “self-serving”). Note. If IP addresses are required, there must be an IPv4 address provided, not just an IPv6 address.
- 2 The IP6Addr field will be validated against the [RFC 2460](#) and [RFC2373](#) (section 2.2) specifications. The IP6Addr may be in any of the formats specified by RFC 2373, ie.
  1. X:X:X:X:X:X:X:X (Fully Specified)
  2. X:X:X::X ('::' denotes compressed zeroes )
  3. X:X:X:X:X:X:d.d.d.d ('d.d.d.d' denotes an IP4 Address)
- 3 AAAA (and not A6) records will be published in the zone files.

## *References*

[[RFC-2373](#)] Hinden, R. and S. Deering, "IP Version 6 Addressing Architecture", [RFC 2373](#), July 1998.

[IPv6] Deering, S. and R. Hinden, "Internet Protocol Version 6 (IPv6) Specification", [RFC 2460](#), December 1998.