

Introducing DNSSEC into .nz

How we plan to handle transfers of signed names

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InternetNZ
Delegation holder

**Domain Name
Commission**
Policy/Regulator

NZRS
REGISTRY



Two Parallel Developments

- The goal is to maintain the Chain of Trust throughout the management of any .nz signed domain names
- NZRS ➡ Technical implementation
- DNCL ➡ Policy development

Policy Considerations

- What is recorded in the registry?
- Who is responsible for what?
- How do we manage transfers?
- How do we manage un-signing a name?

What is recorded in the registry?

- A DS (Delegation Signer) Record needs to be generated and added to the Registry, to enable the DNSKEY to be authenticated
- The WHOIS output will be updated to include the DS Record List

Who is responsible for what?

- Registrants, or their DNS Operator, are responsible for:
 - generating and managing their keys;
 - generating the DS Records; and
 - determining how often they perform key rollovers.
- Registrars responsible for adding DS Records to the Registry

How do we manage transfers?

- Possible Approaches:
 - Don't allow the transfer of a .nz signed names, requiring names to be un-signed to transfer
 - Once signed do not transfer between Registrars
- Generally speaking there is no problem if you sign a domain name and are happy to not transfer it to another Registrar
- However some Registrants will want to transfer and un-signing will not be an option

How do we manage transfers?

- The possible approaches effectively lock a Registrant into a Registrar which is unacceptable as we actively maintain a competitive market place for .nz
- Our Approach was to try and define a process of cooperation in the transfer process

How do we manage transfers?

- Registrars are governed by .nz policies
- For the name server updates of signed domain names, the cooperation and participation of Registrars has been specified in policy

Working with DNS Operators

- A DNS Operator could be the Registrar for the domain, a Registrar who does not manage the domain, a hosting provider, an ISP, or some other third party that offers DNS management services.
- For DNS Operators that are not Registrars the DNC will maintain a contact repository to assist parties in the management of signed domain names

Name Server Update Policy

- When a change of DNS Operator for a signed domain name is required and both the current and proposed DNS Operators are Registrars, then the following cooperation and participation is required:
 - Prior to a name server update, the losing DNS Operator must provide the zone information for the domain name when requested to do so, and accept and add the new DNSKEY to the zone for the domain name, re-sign it and continue to serve this until they are notified the change is complete.

Name Server Update Policy

- The gaining DNS Operator then provides the new DS Record to the losing DNS Operator who provides it to the Registry. The name servers for the domain name can then be updated with the Registry.
- Following the name server update, the gaining DNS Operator must delete the old DS Record and DNSKEY provided by the losing DNS Operator.
- The losing DNS Operator must remove the domain name from their name servers when requested, but must not remove it before being requested to do so.

How do we manage un-signing?

- Registrars are required to remove the DS Records for a signed name as soon as it is practical to do so, once the Registrant elects to un-sign a name.

.nz Signing Status

- 22/05/11 SRS began accepting DS records
- 30/06/11 Testing of solution completed
- 25/07/11 Key generation
- 28/07/11 Publish .nz signed with obscured key
- 29/07/11 Obscured key in operation
- 17/08/11 Publish .nz signed with clear keys
- 18/08/11 Clear keys in operation without DS in root
- 23/08/11 Submit DS records to root zone
- 25/08/11 Keys published in root
- 01/09/11 Sign second levels
- 31/12/11 Fully operational

.nz DNSSEC Resources

NZRS

- High Level Architecture
 - <http://nzrs.net.nz/dns/dnssec/dnssec-high-level-architecture>
- DNSSEC Practice Statement
 - <http://nzrs.net.nz/dns/dnssec/dps>
- For more information email:
support@nzrs.net.nz

DNC

- Policy Summary
 - <http://dnc.org.nz/story/dnssec-policy-amendment-notification>
- For more information email:
info@dnc.org.nz