Technical Policy for Root Zone Management
CENTR Technical Meeting, Amsterdam 2006

Kim Davies
Internet Assigned Numbers Authority
Day 1
Today marks the beginning of:

- New IANA Contract
  October 1, 2006 through September 30, 2007 (12-60 months)

- New kind of agreement for ICANN
  October 1, 2006 through September 30, 2009 (18-36 months)
  Agreed self-governance principles replace milestones

- Operational Improvements
  - Ability to improve operational procedures
  - Better statistics reporting
  - More to come
Interesting technical topics to tackle

- Technical check methodology for root zone changes
- What to do about glue
- Any ongoing monitoring or (eek) compliance testing
Technical Checks

- Aim is to create an unambiguous operational procedure on what IANA will check to pass/fail root zone alterations.
  - Should be sufficiently objective to be automatable - represents a mandatory dependency before we can ‘automate’ RZM.
- Discussion paper released mid-August 2006
- Initial comment period, just closed
Disclaimer

- What follows is a hotel-room distillation of comments received via web forum
- Apologies for any errors, and the necessary oversimplification
### Terminology and Process

<table>
<thead>
<tr>
<th>Mandatory</th>
<th>Warning</th>
<th>VRSN Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Manual processing)</td>
<td>IANA will refuse to implement change</td>
<td>IANA emails requestor advising of issue, allowed with valid explanation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Goal</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Automated)</td>
<td>Requestor can not submit request until remedied</td>
<td>Issue raised on web form. Can click “Proceed” to accept they understand consequences.</td>
</tr>
</tbody>
</table>
1. Minimum of 2 Name Servers

Test Type: **MANDATORY**

<table>
<thead>
<tr>
<th>General view of appropriateness:</th>
<th>Afilias</th>
<th>ccNSO</th>
<th>CENTR</th>
<th>DENIC</th>
<th>IIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✔</td>
<td>no consensus</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

**Observation:**

*Seems rather uncontentious, despite the pathological case of a single anycasted server*
2. 512-byte threshold

Test Type: **MANDATORY**

General view of appropriateness:

- Afilias ✔
- Auerbach ✔
- ccNSO ✔
- CENTR ✔
- DENIC ✔
- IIS ✔
- NIC Chile ✔

Observation:
When correctly respecified as a 512-byte limit, rather than the current methodology, seems to have almost universal support.
3. Hostname validity

Test Type: **MANDATORY**

General view of appropriateness:

- Afilias ✔
- ccNSO ✔
- CENTR ✔
- DENIC ✔
- IIS ✔

Observation: *Uncontentious.*
4. Name server reachability

Test Type: **MANDATORY**

General view of appropriateness:

- Afilias ✔
- ccNSO  no consensus
- CENTR  ✔
- DENIC  ✔
- IIS  ✔
- NIC Chile ✔
- SWITCH  ❌ (make warning)

Observation:
Some view it as not a role of IANA to check that authorities work.
Some in ccNSO believed only 2 should need to work.
5. **Name server authority**

**Test Type:** **MANDATORY**

<table>
<thead>
<tr>
<th>General view of appropriateness</th>
<th>Afilias</th>
<th>ccNSO</th>
<th>CENTR</th>
<th>DENIC</th>
<th>IIS</th>
<th>SWITCH</th>
<th>(make warning)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>❌</td>
<td>(make warning)</td>
</tr>
</tbody>
</table>

**Observation:**

*General Consensus*
6. Name server coherency

Test Type: **WARNING**

General view of appropriateness:

- Afilias ✔
- ccNSO ✔ (make mandatory)
- CENTR ✔
- DENIC ✔ (make mandatory)
- IIS ✔

Observation:

*General consensus, with a number suggesting it be mandatory.*
7. Glue Coherency (parent/child)

Test Type: **WARNING**

General view of appropriateness:
- Afilias ✔ (make mandatory)
- ccNSO ✔ (make mandatory)
- CENTR ✔
- DENIC ✔ (make mandatory)
- IIS ✔

Observation:
*General consensus, with most suggesting it be mandatory.*
8. Glue must be agreed by all affected children

Test Type: **MANDATORY**

<table>
<thead>
<tr>
<th>General view of appropriateness:</th>
<th>Afilias</th>
<th>ccNSO</th>
<th>CENTR</th>
<th>DENIC</th>
<th>IIS</th>
<th>SWITCH</th>
<th>(make warning)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
<td></td>
</tr>
</tbody>
</table>

**Observation:**

*Clearly this is an issue, as was known before. It is not really a technical requirement, rather a management problem that is highlighted by technical observation. IANA will solicit views on an appropriate shared glue policy in the near future.*
9. Serial Coherency

Test Type: WARNING

General view of appropriateness:

- Afilias ✔
- ccNSO no consensus
- CENTR ✔
- DENIC ✘
- IIS ✔

Observation:

No real consensus, although it should be noted this has always been informational.
10. Network Diversity

Test Type: **WARNING**

General view of appropriateness:

- Afilias ✔
- ccNSO  no consensus
- CENTR ✔
- DENIC ✘
- IIS ✔
- NIC Chile ✔
- SWITCH ✘

Observation: 

*No strong consensus.*
11. Splitting substantial changes

Test Type: **WARNING**

<table>
<thead>
<tr>
<th>General view of appropriateness:</th>
<th>Afilias</th>
<th>ccNSO</th>
<th>CENTR</th>
<th>DENIC</th>
<th>IIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

**Observation:**

*General consensus that this is a useful warning to give.*
Other notable comments

- Checks for EDNS0 capability (warning)
- TCP transport checks (warning)
- Should IANA’s/ccTLD Role be to demonstrate best practice?
Do you have comments?

- Feel free to send any last minute submissions today to

  techcheck-comments@icann.org
Ongoing role

- There have been significant comments that IANA should do informational periodic testing
Next steps

- Will draft an operational procedure for further review.
  - I-D or not I-D?
- Hopeful for implementation by São Paulo?
Thank you for your attention!

Kim Davies
kim.davies@icann.org