

# Test Requirements Task Force (TRTF)

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# *Outline*

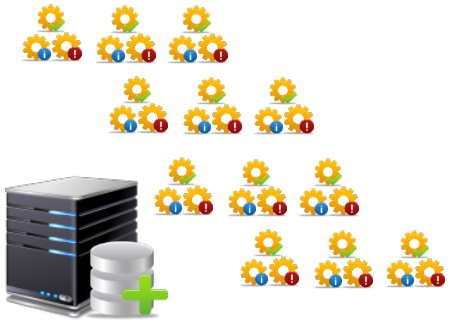
- Zonemaster
- TRTF
  - What & Why
  - Your thoughts

# *Why a new tool?*

- Zonecheck
  - Ruby
  - Legacy code
- DNScheck
  - Does not provide deterministic results
- Decision
  - Upgade existing tools ?
  - Start from the scratch ?



# *High level architecture*

| Usage method | Test engine | Output type |
|---|---|---|
| CLI method |  | CLI output |
| | | Machine parsable output |
| Web GUI method | | Web output |
| Batch method |  | Reports<br>Statistics |
| | | Raw Data |

# *Useful Information*

- All documentation are in github (CC 4.0 License)
- All source codes are in github (BSD License)
- Zonemaster
  - Zonemaster-Engine
  - Zonemaster-GUI
  - Zonemaster-CLI
  - Zonemaster-Backend
- Stable Release
- Maintenance until 2016
- We need your inputs for new features
- **zonemaster-users@iis.se, zonemaster-devel@iis.se**

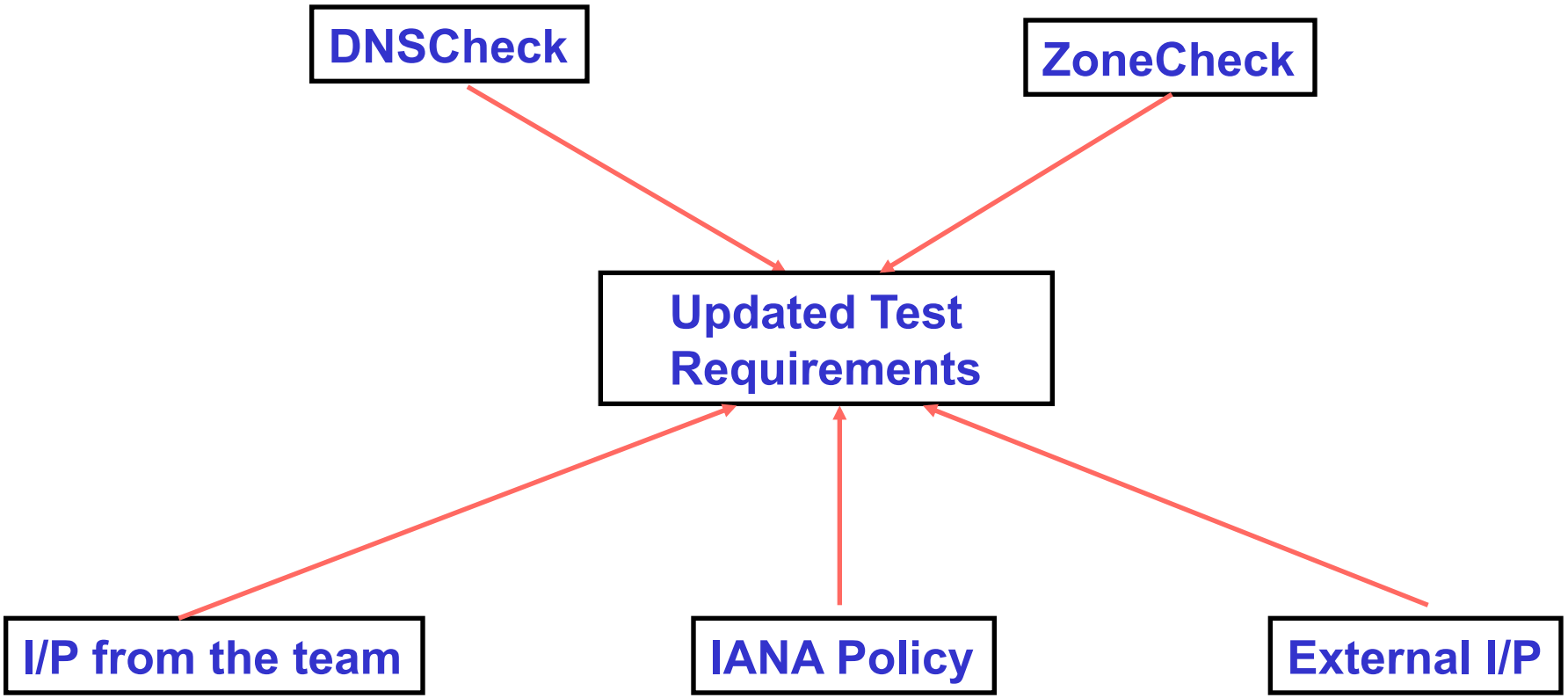
# *Dilemma before implementing ZM*



# Test requirements

| Req | Requirement description |
|---|---|
| R01 | UDP connectivity |
| R02 | TCP connectivity |
| R03 | Address in a private network |
| R04 | Address should not be part of a bogon prefix |
| R05 | Illegal symbols in domain name |
| R06 | Dash ('-') at start or beginning of domain name |
| R07 | Double dash in domain name |
| R09 | At least two nameservers for the domain |
| R10 | Identical addresses |
| R11 | Nameserver addresses on same subnet |
| R12 | Nameserver addresses are all on the same subnet |
| R13 | Delegation response fit in a 512 byte UDP packet |
| R14 | Delegation response with additional fit in a 512 byte UDP packet |
| R15 | NS record present |
| R16 | NS authoritative answer |
| R17 | NS name has a valid domain/hostname syntax |
| R18 | NS is not an alias |
| R19 | NS can be resolved |

# *Test requirements*



# *Test classification*

| Level and Test Case |
| --- |
| CONNECTIVITY |
| CONNECTIVITY |
| ADDRESS |
| ADDRESS |
| SYNTAX |
| SYNTAX |
| SYNTAX |
| DELEGATION |
| DELEGATION |
| CONNECTIVITY |
| CONNECTIVITY |
| DELEGATION |
| DELEGATION |
| BASIC |

# *Test specification*

## BASIC00: Domain name must be valid

### Test case identifier

**BASIC00** Domain name must be valid

### Objective

In order to begin testing the domain name from the input must be a valid domain name. The domain name must follow the rules defined in section 2.3.1 of RFC 1123. The objective of this test is to see if it is possible to have the domain name mapped into a DNS packet in order to proceed with further testing.

### Inputs

The label of the domain name to be tested.

# *Test specification*

## Ordered description of steps to be taken to execute the test case

1. Remove any trailing dot from the input domain name.
2. If the total length of the input is more than 253 octets, this test case fails.
3. Separate the input by the dividing it into labels separated by the "." character.
4. If any of the labels from step 3 is more than 63 octets, this test case fails.
5. If any of the labels from step 3 is zero octets in length, this test case fails.

## Outcome(s)

If the total length of the input is more than 253 octets or any label is longer than 63 octets, this test case fails.

## Special procedural requirements

If this test fails, it's impossible to continue and the whole testing process is aborted.

# *TRTF*

- The idea originated from CENTR Jamboree and DNS-OARC
- TRTF is currently under the scope of CENTR (https://github.com/CENTRccTLDs/TRTF)
- Objective
  - BCP
  - Informational RFC

# *Issues*

- Tried number of times but did not materialise
- Different people have different requirements
- The TRTF mailing list is getting lukewarm response
- Volume of the work involved

# *Why this presentation?*

- Is this the right approach?
- Is it possible to define generally accepted requirements? Can we reach a best practice for testing a delegation of a domain?
- Can we reach the point where different tools test the same thing? – If two come to different conclusion, one is probably wrong?
- Your thoughts?

# *Merci !*

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