Survey of Recursive Resolvers

Steve Crocker
Shinkuro, Inc.
Measurements

Measurements of recursive resolvers were carried out through probing from SamKnows clients inside of networks.

- **Validator**: The resolver checks signatures when requested to do so.

- **DNSSEC Aware Resolver**: The resolver retrieves and passes back to the client the full set of keys, signatures, etc. that enable the client to validate.

- **Other**: The resolver does not provide enough functionality to enable the client to do his own validation.
Measurements – Edge Cases

The detailed probing comprised 13 tests for both basic functionality and specific edge cases, e.g.

- Support for large responses via large packets and/or TCP
- Support for DNAME
- Support for NSEC3
- Support for unknown (new) record types
Measurements – SamKnows Results

- >1/6 Validators
  - 2/3 Full
  - 1/3 Partial

- 1/2 DNSSEC Aware
  - 2/3 Full
  - 1/3 Partial

- >1/4 Broken

- ~5% Other
Findings

Many resolvers are DNSSEC Aware. This is good news.

• Of these, a significant portion have specific limitations. Improvement is needed.

Some resolvers check signatures, i.e. are Validators.

• Some of these also have specific limitations.