Babel Information Model

BARBARA STARK

AT&T

IETF 101, MARCH 2018

Brief structural overview

information object

        includes implementation version, router id, this node's seqno parameters

        constants object (exactly one per information object)

                includes UDP port and optional multicast and unicast groups parameters

        interfaces object

                includes interface reference, Hello seqno and intervals , update interval, link type, external cost parameters

                neighbors object

                        includes neighbor IP address, Hello history, cost parameters

        security object

                includes supported and enabled security mechanisms, self credentials parameters

                trusted credentials (credential object)

        sources object

                includes source prefix, router ID, sequence number, and metric

        routes object

                includes route prefix, source router, reference to advertising neighbor, metric, sequence number, whether route is feasible, whether route is selected

What MAY be configurable?

Existing:

- Constant: UDP port
- Constant: IPv6 multicast group
- Constant: IPv4 multicast group
- Interface: Link type
- Interface: External cost (must be configurable if implemented, but implementation is optional)
- Security: self credentials
- Security: trusted credentials

Adding:

- enable/disable babel
- Interface: enable/disable babel on this interface
- Interface: enable/disable message log
- Filtering: filter entries
- Security: enable/disable security log

Changes coming to -02

Received comments from Juliusz in January + sat down with Juliusz on Monday, which has resulted in:

- Nits fixed and synched with current 6126bis; **there will be a detailed change log in the next revision (Appendix B), which includes description of changes to all prior revisions**

- change babel-lossy-link to babel-link-type and make this an enumeration; wireless, (Ethernet) wired, "other" now, but envision allowing support for powerline, coax, etc.

- changes to babel-security-obj to allow self credentials to be one or more instances of a credential object; allowed trusted credentials to include CA credentials

- route filtering rules (optional to support)

- security log (record entry at time when credentials are examined and allowed or not)

- redistributed routes

Open Issues

Following are some issues where a conscious decision may be useful:

1. Would it be useful to define some parameters for reporting statistics or logs? [Yes, but these need to be proposed.]

2. Would it be useful to define some parameters specifically for security anomalies? [Yes, but these need to be proposed. Proposing log of credential authentication attempts]

3. I created a basic security model. It's useful for single (or no) active security mechanism; but not multiple active. OK? It can easily be changed.

4. Do we need a registry for the supported security mechanisms?

5. babel-external-cost may need more work.

6. babel-hello-history: the Hello history (do we want a human readable format? Optionally include timestamp? [Juliusz and I discussed and will keep current parameter as a 16 bit field and add a separate, optional-to-implement, log of recent messages per interface; size of log is implementation-specific, but don't let it get too big.]

7. rxcost, txcost, cost: is it ok to model as integers, since 6126bis 2.1 says costs and metrics need not be integers?

8. This was all based on input from Juliusz, so it reflects his implementation. Need input from other implementers.

Anything else?