

# REPUTE and URI Templates

Murray S. Kucherawy  
<msk@cloudmark.com>

# The Story So Far

- draft-kucherawy-reputation-query-http specified, given a hostname where a reputation service lived, a fixed URL for formatting the query
- This was considered “unfortunate” by someone more knowledgeable in this space than I am
- I was pointed at a new thing called URI templates as a more modern approach

# Where does this fit into REPUTE?

- draft-kucherawy-reputation-query-http specifies how to ask for a reputation over an HTTP or HTTPS query
  - But you need to know *where* to send the query and what format it should have
  - Also, different services might want or permit you to specify parameters with your query in addition to just the question you're asking
    - Additional details about the subject (maybe DKIM domain plus IP address)
    - Credentials to access the service

# Interesting. Now what?

- Register a well-known URI (RFC5785) so that, given the hostname of a reputation service, one can query that URI for a template
- Now that you have the template, you can fill it in with standard REPUTE parameters or extensions

# Example

- For a reputation service based at `repute.example.com`, you query:  
`http://repute.example.com/.well-known/repute_template`
- Answer comes back:  
`http://{service}/repute.php?subject={subject}&  
application={application}&  
assertion={assertion}&  
service={service}`
- Our query draft gives you the values for those symbols, and `draft-gregorio-uritemplate` tells you how to expand this into a complete URI
  - There are interesting expansion tricks, go check it out

# That's it?

- Pretty much
- Our query document enumerates a couple of parameters that are required for all queries
- Our IANA stuff lets an application registration specify additional parameters to the URI templates that are either required or optional for that application
- Reputation service providers then post the template they want you to use in your queries

# Does it work?

- Yes!
- Implemented in OpenDKIM now, along with all the rest of the initial document set

# Side Effects

- Given this flexibility, I'm left wondering how one might encode something this robust in a DNS query, where the name and RRTYPE have to encode the entire question
  - Maybe we really do need a UDP query, with some kind of template support, painful as that will be
  - Maybe DNS is also fine where the query has few (or no) additional parameters
    - Depends on the application