REPUTE BoF

Murray S. Kucherawy
<msk@cloudmark.com>
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REPUTE BoF Agenda

1. Introduction and administrative notes - 5 min
2. Problem statement and scope - 15 min
3. Discussion of work so far - 15 min
4. Discussion of proposed charter - 15 min
5. Questions - 10 min
   – Are the problem statement and scope clear?
   – Is this appropriate for IETF work?
   – Who will work on it?
Problem Space

• Several security technologies today need to be able to determine the value of an identifier
  – Value is intentionally undefined here because it will mean different things in different contexts
• Most common examples of these include IP addresses and domain names used when evaluating email
  – Is mail from example.com desirable?
  – Does 1.2.3.4 appear to be hacked?
Problem Space

• We have some very rudimentary reputation services already
  – DNSBLs (RFC5782) can indicate presence of an IP address on a block list
  – Vouch-By-Reference (RFC5518) can indicate that one domain vouches for another in certain specific contexts

• But these replies are binary only
Problem Space

• What’s missing is something more general and extensible
  – Extend easily into new application spaces and sub-spaces
  – Allow something other than a Boolean expression of membership in a set
  – A means of indicating the service’s confidence in its own answer
Problem Space

• This is a logical follow-on to technologies like DKIM, SPF and Sender-ID that authenticate a domain name on a piece of email
  – “OK, so I know this mail really came from (or was authorized by) example.com... so what?”
Problem Statement

- “Security applications need a general framework for querying one or more authorities about the reputation of an identifier. This framework must be extensible into new applications, and must support a plurality of possible assertions within each application, and an expression of confidence in the answer.”
What’s In Scope

• The framework, including media types and other definitions
• A lightweight protocol for simple queries and replies, and a heavyweight protocol for more structured or detailed queries and replies
  – We’ll try re-use existing wire protocols to move the data around; only talking about payload here
• Initial application definitions, such as for email
What’s **Not** In Scope

• How a reputation service provider computes reputation or collects data to do so
  – Method of collection (feedback)
  – Specific data to be collected

• How a reputation consumer makes use of the reply from a reputation service
  – Fully a local policy/configuration decision
The Story So Far

• Reputation was specifically declared out-of-scope for DKIM, SPF and Sender-ID even though it’s an obvious application making use of those technologies
• Now that those are all out and stable, it’s the right time to start working on this new layer of those applications
• No current working groups are operating in this space
  – Doesn’t seem to fit in APPSAWG, which wasn’t meant for big projects
The Story So Far

• Created a non-WG mailing list about a year ago (domainrep@ietf.org) where discussion has taken place
  – Original scope was reputation about domain names only, hence the name; some people on the list urged us to “think bigger”
  – Draft charter circulated there
• Initial suite of drafts now available
• Approached APPS area ADs
  – Reputation is an applications layer service
  – Should have a SEC AD as advisor to cover privacy and security of the queries and responses
Drafts Available

• draft-kucherawy-reputation-model
  – Defines the overall concept, basic definitions, and framework

• draft-kucherawy-reputation-media-type
  – Defines a new media type to contain the full reply in XML form
  – Some people would rather see JSON; we can discuss this
Drafts Available

• draft-kucherawy-reputation-query-dns
  – Defines a query/response format using TXT records in the DNS

• draft-kucherawy-reputation-query-http
  – Defines a query/response format using HTTP and XML, and specifies an XML schema

• draft-kucherawy-reputation-query-udp
  – Template for a document to contain a UDP query/reply format (currently mostly empty)

• draft-kucherawy-reputation-vocabulary-identities
  – Initial “vocabulary” for providing reputation service about identities found in email
Draft Charter

• Basically says all of the above, and sets out milestones matching the drafts that have been started:
  – Framework and definitions (informational)
  – Media type
  – Lightweight query
  – Heavyweight query
  – Email vocabulary
  – Protocol for reporting reputation data (feedback)
    • Old expired draft from mimedefang project
Questions To Explore

• Is the problem space identified correctly?
  – What are we missing?

• Is the problem statement the right one?
  – Too narrow, too broad?

• Is the scope right?
  – Should more stuff be declared in or out of scope?
Questions To Explore

• Who will be able to review documents?
• Who will be willing to edit documents?
• Who will be willing to participate in development and testing of prototypes?
• Who would be interested in co-chairing a working group?
• What are some reasonable dates for the proposed milestones?