Token Revocation Notifications

draft-tiloca-ace-revoked-token-notification-00

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Problem

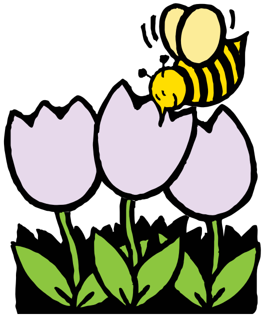
- OAuth: token revocation by Client (RFC 7009)
- No revocation by Resource Owner or AS

  → Not a problem, tokens expire fast …

  … but not in ACE ☹

  (e.g. clients with intermittent connectivity)

- AS: How do I tell my Client/RS?



Idea (by Jim Schaad)

- Create resource at AS for each Client/RS
- Client/RS can GET or GET-Observe
- Payload == list of revoked tokens
  - Actually IDs of revoked tokens
- What ID?
  - Not ‘cti’ → token opaque to client
  - Use hash of token (RFC 6920, section 3)
- Updated when new tokens revoked or revoked token expires

Example

```
RS1                                  AS
  |                                    |
  | Registration: POST                 |
  +----------------------------------->|
  |                                    |
  |<-----------------------------------+
  |           2.01 CREATED             |
  |            Payload: {              |
  |                 ...                |
  |                 "trl" = "/trl/RS1" |
  |            }                       |
  |                                    |
  | GET Observe: 0                     |
  |  coap://example.as.com/trl/RS1     |
  +----------------------------------->| Access control
  |                                    |
  |<-----------------------------------+
  |            2.05 CONTENT Observe: 1 |
  |                  .                 |
  |                  .                 |
  |                  .                 |
  |                                    |
  | (Access Tokens t1 and t2 issued    |
  | and successfully submitted to RS1) |
```

Example ctd.

```
|                  .                 |
|                  .                 |
|                                    |
|    (Access Token t1 is revoked)    |
|<-----------------------------------+
|            2.05 CONTENT Observe: 2 |
|             Payload: [h(bstr.t1)]  |
|                  .                 |
|                  .                 |
|                  .                 |
|                                    |
|    (Access Token t2 is revoked)    |
|<-----------------------------------+
|            2.05 CONTENT Observe: 3 |
|             Payload: [h(bstr.t1),  |
|                       h(bstr.t2)]  |
|                  .                 |
|                  .                 |
|                  .                 |
|     (Access Token t1 expires)      |
|<-----------------------------------+
|            2.05 CONTENT Observe: 4 |
|              Payload: [h(bstr.t2)] |
|                                    |
```