Identity in the Browser 2011

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A quick history - current and proposed browser identity features

- Password store & sync
- “Account Manager” authentication and session metaprotocol
- Contacts API prototype
- OpenID sniffer / ID presentation widget

2010:

Account Manager

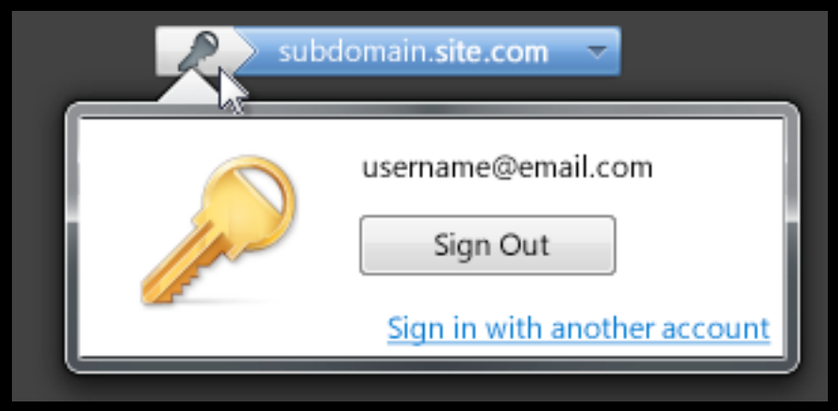
- Metaprotocol for site advertisement of authentication capabilities and session state
- Profiles for HTTP Basic, HTTP Form
- Very difficult to handle federated cases: huge number of error paths, no clear user model, hard to get agreement across browsers

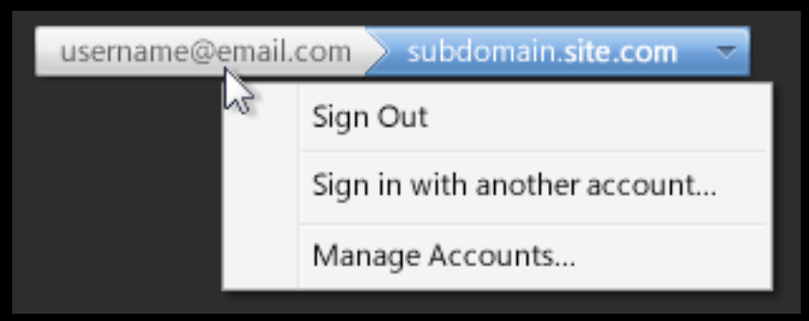
subgoal:

Managing Session State

- DOM-level announcement of session(s) with identifiers, termination URL or JS callback, optional cookie "trigger"

- e.g. navigator.id.sessions =
  [{ id:"username@email.com", end:
  "http://site.com/logout" }]



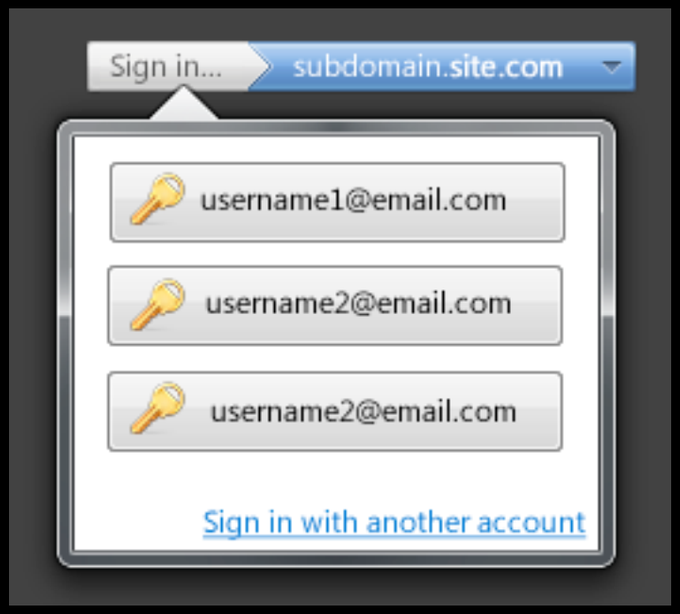


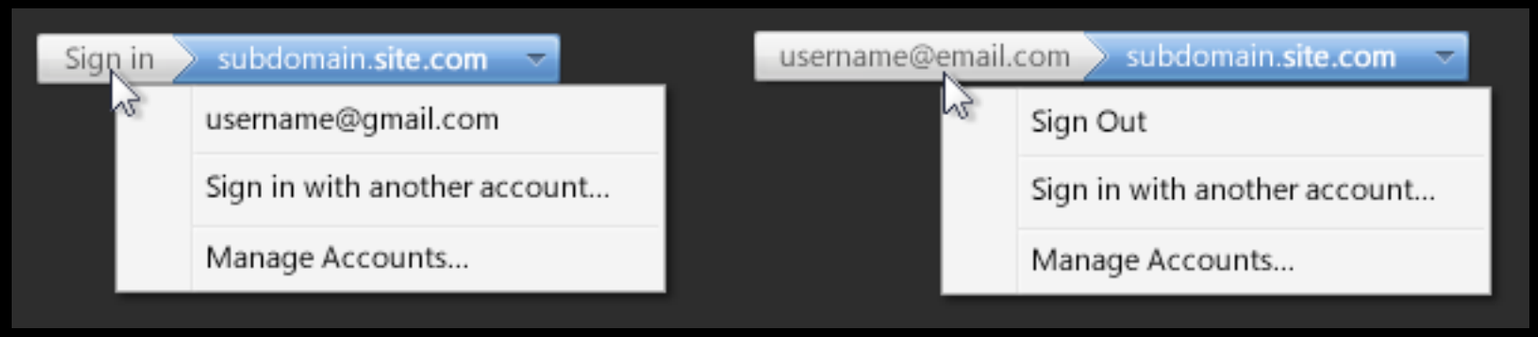
Step back:
Minimal distributed identity system

- Distributed means hostnames. Identifier at hostname?
- Current RP systems are all based on email addresses: user-memorable, convenient, recognizable. (but: spammable, correlatable)
- RPs treat control of email address as stronger than username/password.
- Directed pseudonymity (anonymous remail) is a well-understood property of email.
- Discovery of attributes is well understood - stable identifiers help.

a proposal:
Verified Email Assertions

- navigator.id.getVerifiedEmail(
  <callback>, challenge)
- window.onVerifiedEmail(
  function(assertion) {...})



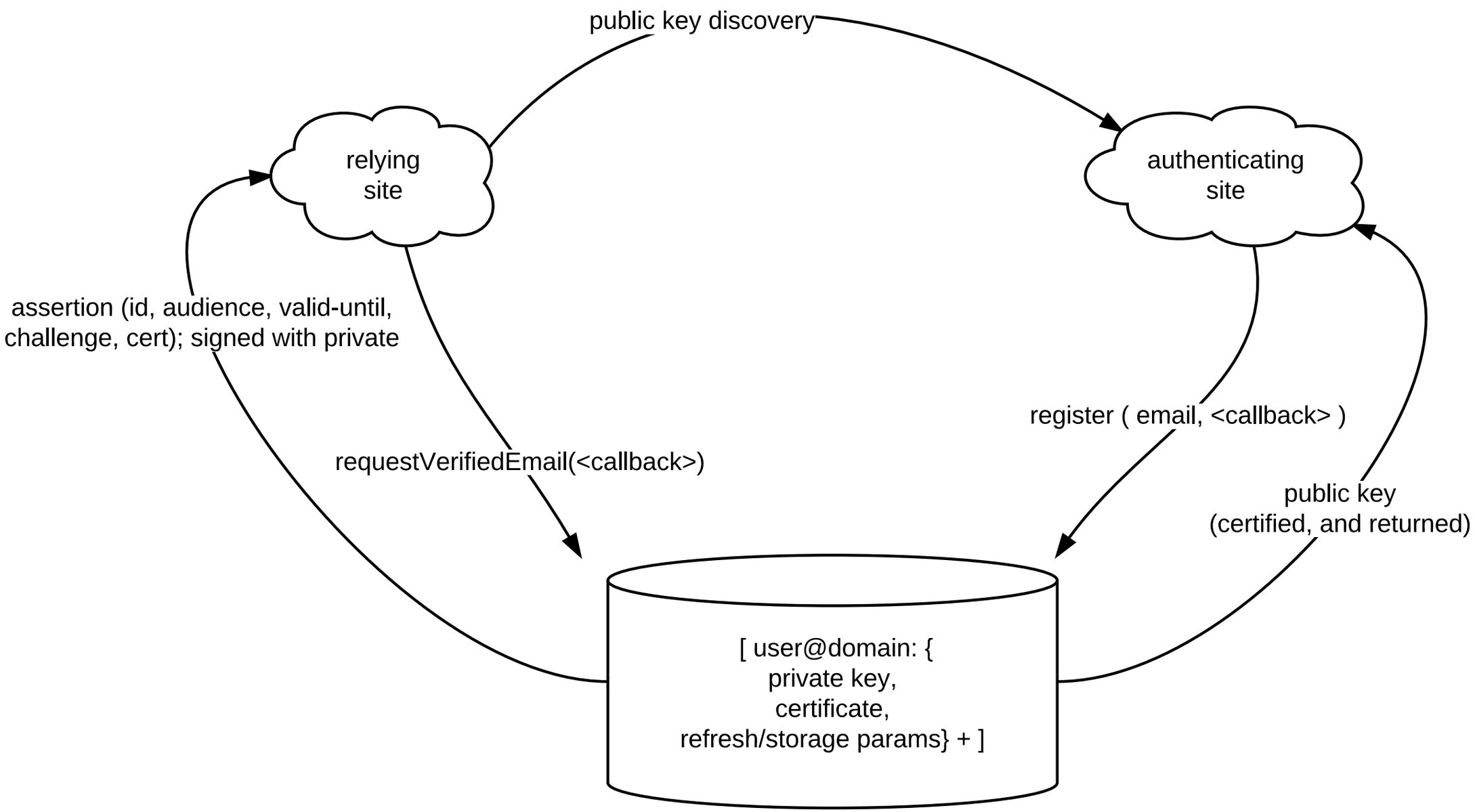


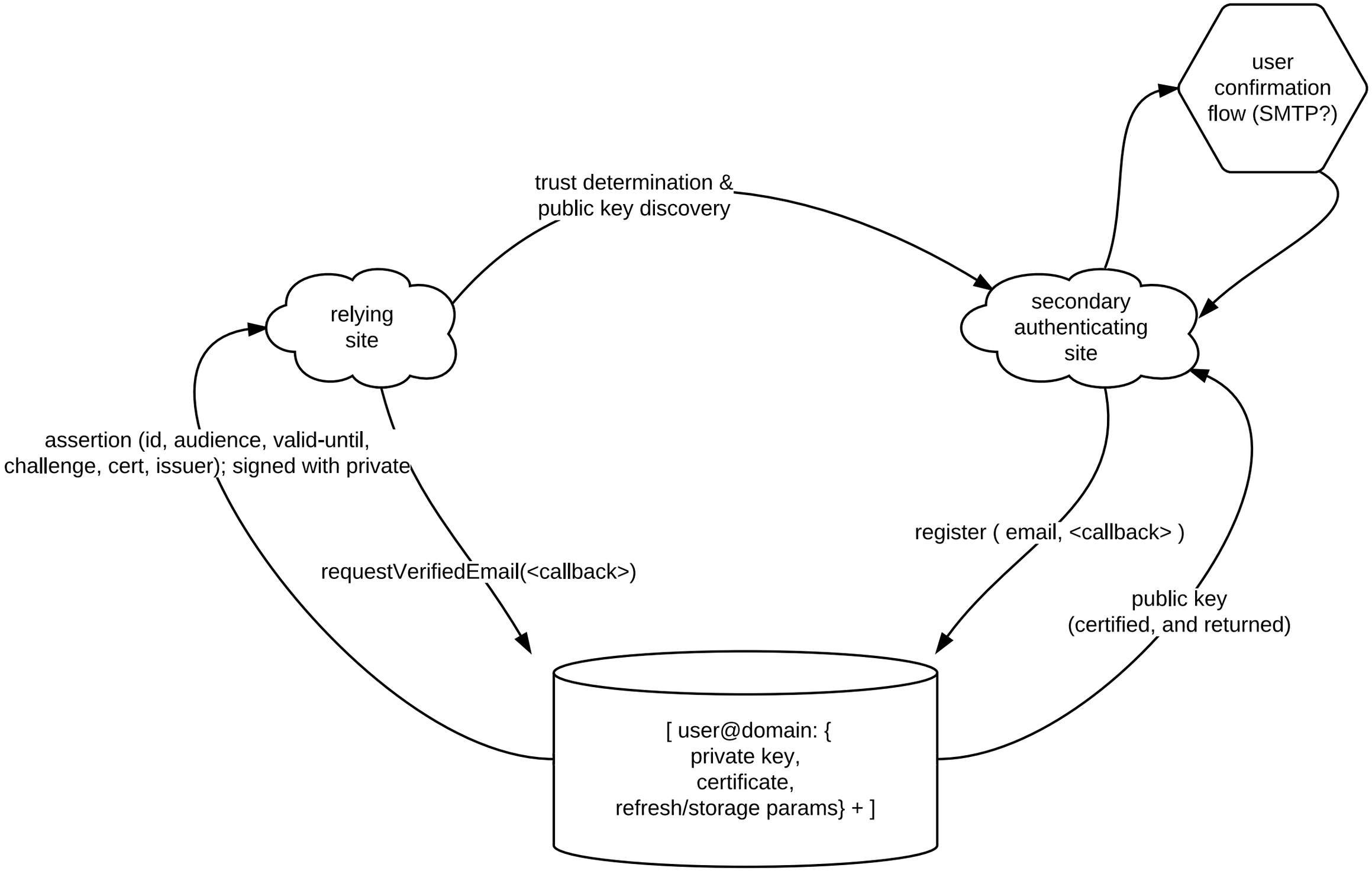
native gives a nice UI and stronger security
but we've got a pure JS, streamed-in API working

Identity provider's half:

- navigator.id.registerVerifiedEmail(id, <pubkey-callback>)
- navigator.id.certifyVerifiedEmail(id, <cert>)
- public key advertisement/discovery

much to discuss:
- automated pseudonym provisioning
- limitations on register: session-only, non-persist, encrypted only
- limitations of key and certificate: long-lived key, short-lived cert?
- automatic cert refresh - but with what credential?


public key discovery
relying site
authenticating site
assertion (id, audience, valid-until, challenge, cert); signed with private
requestVerifiedEmail(<callback>)
register (email, <callback>)
public key (certified, and returned)
[user@domain: { private key, certificate, refresh/storage params} +]


user
confirmation
flow (SMTP?)
trust determination &
public key discovery
relying
site
secondary
authenticating
site
assertion (id, audience, valid-until,
challenge, cert, issuer); signed with private
register (email, <callback>)
requestVerifiedEmail(<callback>)
public key
(certified, and returned)
[user@domain: {
private key,
certificate,
refresh/storage params} +]

- Machines are multiuser
- Users are multipersona
- Core questions:
  - From site to user, “who are you”, and “how do I talk to you?”
  - From user to site, “I am <facet of me>”, and “You may know this about me”