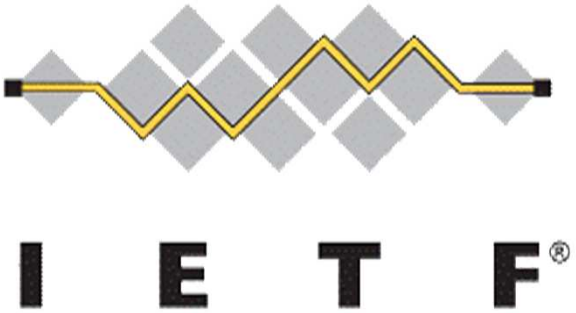


Identity Management

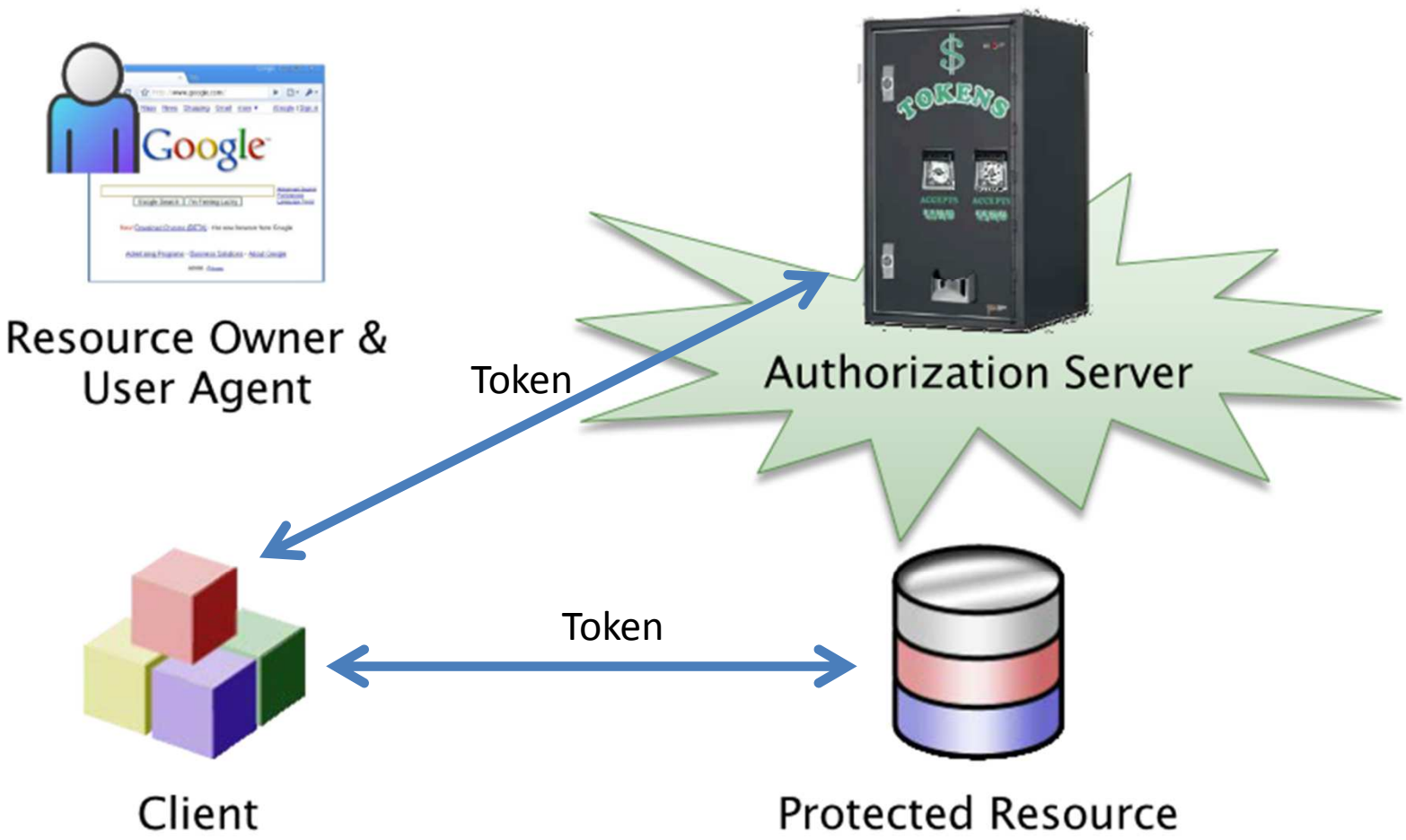
Hannes Tschofenig

Motivation

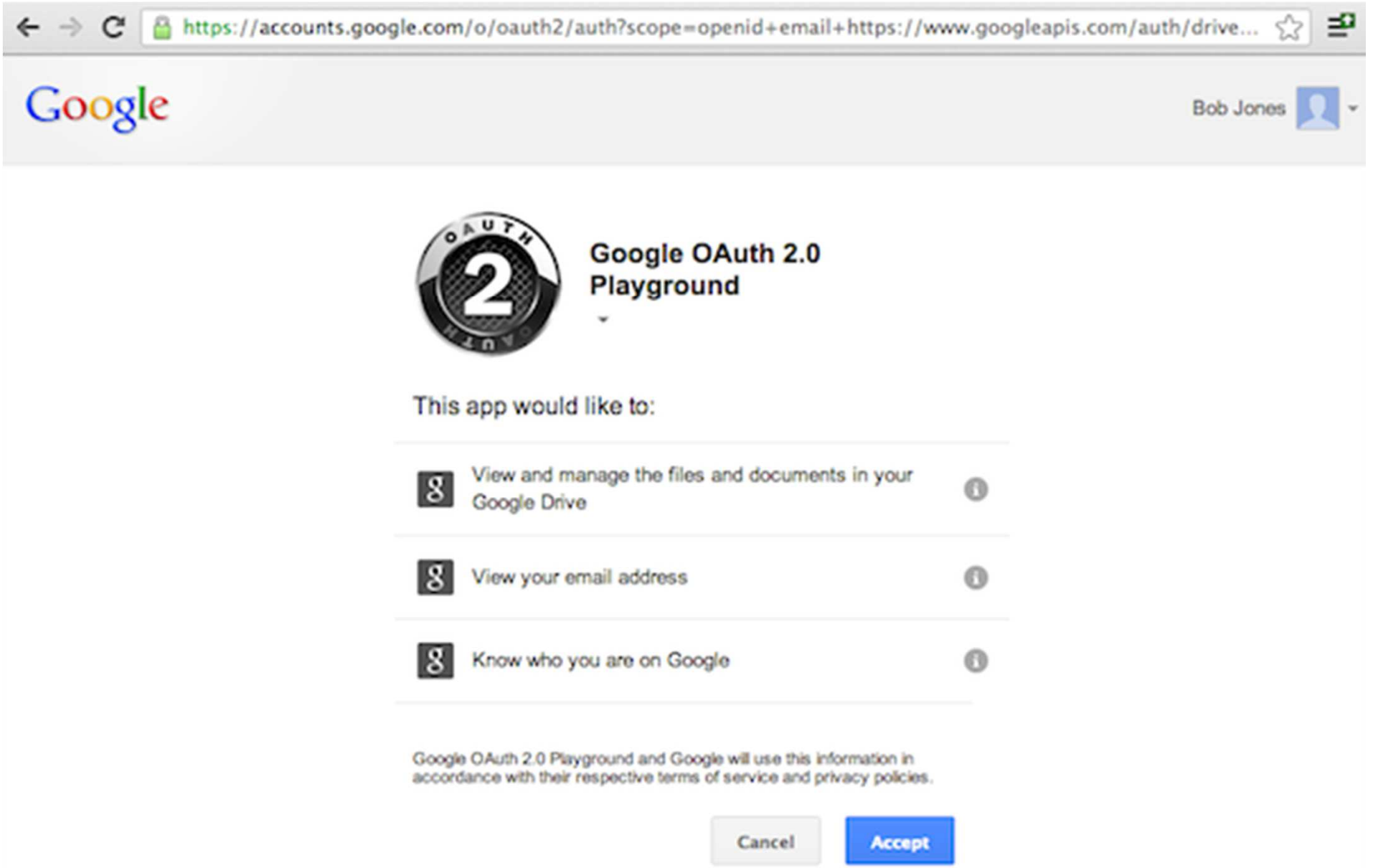
- OAuth was created to allow secure and privacy friendly sharing of data.
- OAuth is not an authentication protocol.
  - Works with any user authentication protocol (e.g., OATH, FIDO, W3C CryptoAPI, etc.)
  - Federated login possible with OpenID Connect
- OAuth is widely used on the Internet.
  - Example: Salesforce, Google, MSFT Azure, Deutsche Telekom, GSMA mobile connect (Orange, Telekom Italia)

$ Identity: Any subset of an individual's attributes, including names, that identifies the individual within a given context. Individuals usually have multiple identities for use in different contexts. *(RFC 6973)*

Players



Courtesy to Justin Richer for the figure.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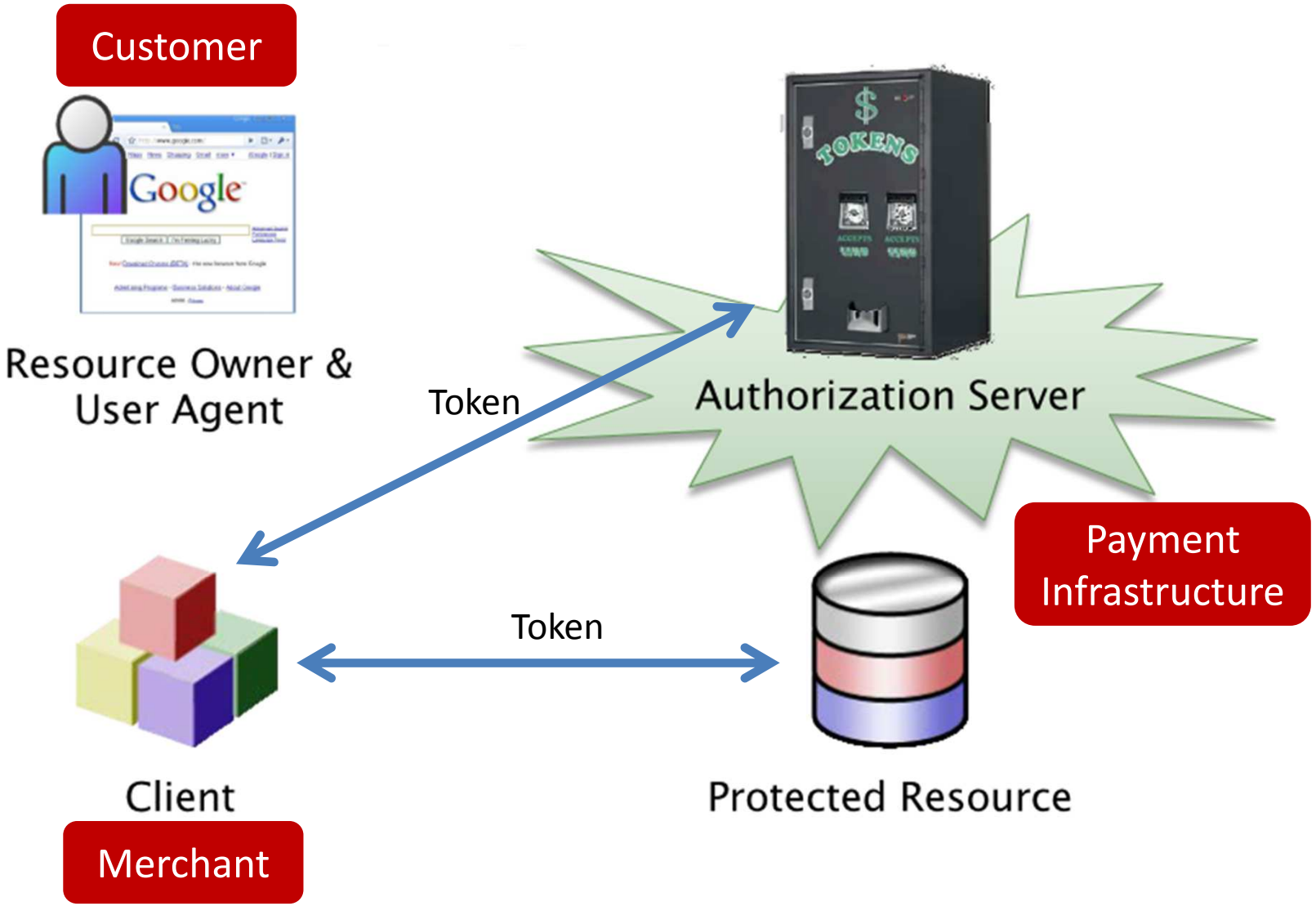
Google
Bob Jones
Google OAuth 2.0 Playground
This app would like to:
View and manage the files and documents in your Google Drive
View your email address
Know who you are on Google
Google OAuth 2.0 Playground and Google will use this information in accordance with their respective terms of service and privacy policies.
Cancel
Accept

Players: “Payment Terminology”



Courtesy to Justin Richer for the figure.

Layering Payment on Top of Identity Infrastructure?

Insights we gained

- It works and is deployed.
  - Even password sharing practice has been significantly decreased.
- High interest to be the identity provider but not necessarily relying party.
- Incentivizing the issuance of strong credentials (i.e., stronger than passwords) is difficult.
- Design for a distributed mechanism can still lead to silos.
- Some companies use the standardized OAuth/OpenID Connect but add extensions that make their solution non-interoperable.
  - Lack of understanding? Mistake? Intention?

Insights we gained, cont.

- Relationship between relying party and identity provider is more than just technology.
  - Influenced by business agreements and legal frameworks → OIX
- Security guidance we provide in our specifications (e.g., RFC 6819) is sometimes “kindly ignored”.
- Privacy:
  - Consent mechanism lead to better privacy.
  - Relying parties still ask for too much but this is a deployment choice rather than something a standard can dictate.
  - Choice offered is often limited → “take it or leave it”

More Info?

- OpenID Connect might be a good platform for a payment protocol.
- Look at IETF OAuth working group for core specifications.
- OAuth Tutorial:
  - Slides
  - Recording
    (Might require to download a Cisco Webex ARF player at http://www.webex.com/go/down_player_win_arf)