IETF 83
SCIM
Simple Cloud Identity Management

"The what"

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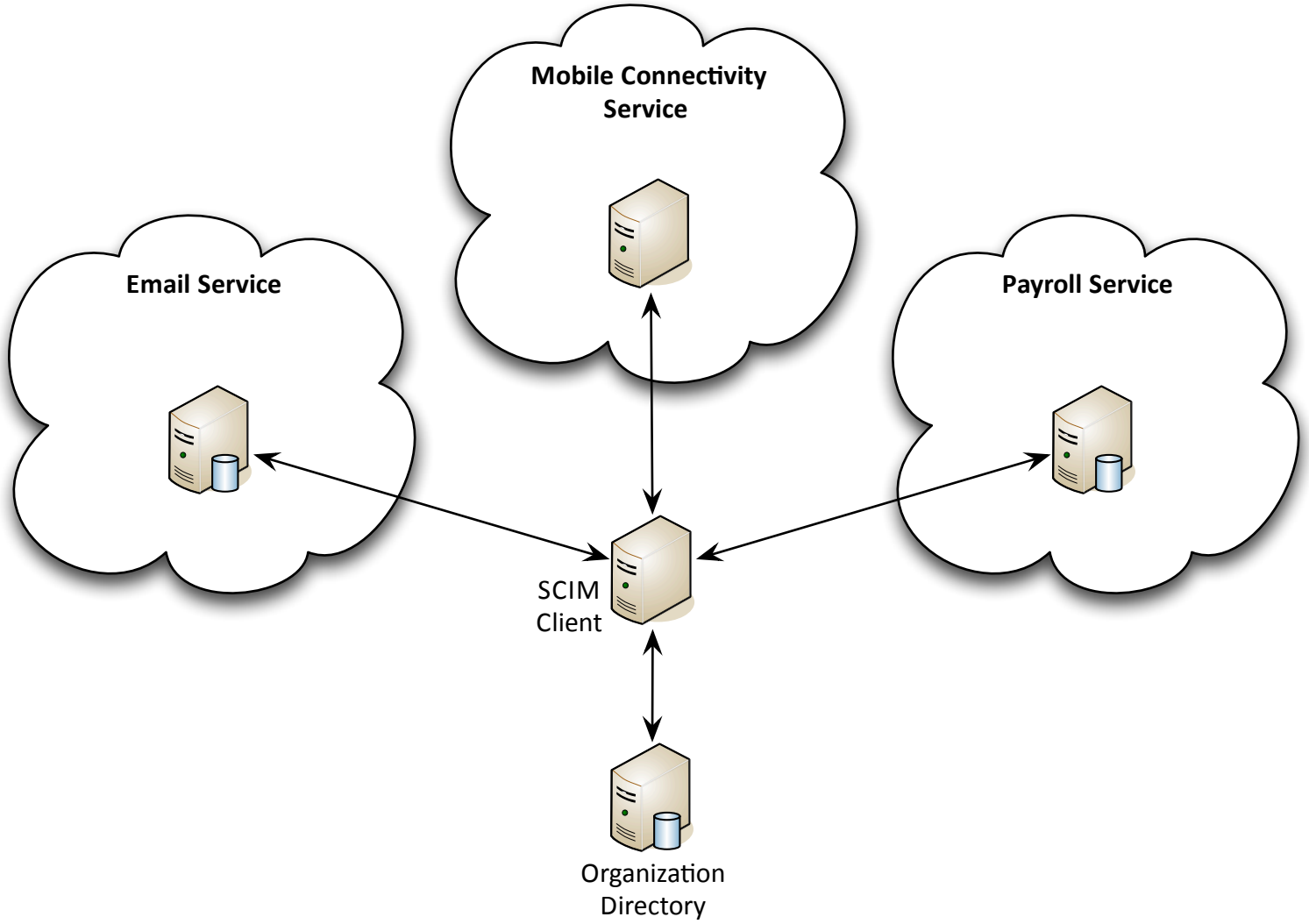
What is the problem?

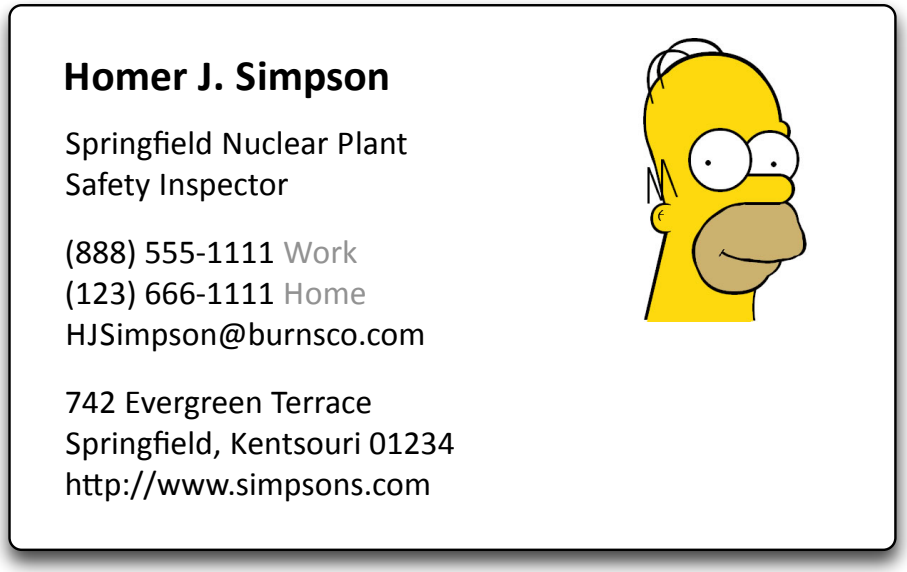
- “How do I provision a user account for service X?”
- “How do I deprovision a user account from service X?”
- “How do I update an existing account for service X?”
- “How do I keep my organization’s users in sync with service X?”
- “How do I manage groups?

What is the problem?



What is a user?

dn: cn=HomeJSimpson,o=*domain-name*
cn: HomerJSimpson
objectClass: top
objectClass: person
objectClass: organizationalPerson
objectClass: inetOrgPerson
mail: HJSimpson@burnsco.com
givenname: Homer
sn: Simpson
postalAddress: 742 Evergreen Terrace
l: Springfield
st: Kentsouri
postalCode: 01234
telephoneNumber: (888) 555-1111
jpegPhoto: < http://www.simpsons.com/homer.jpg
…



How do we do it today?

- Manual (UI)
- Bulk (CSV upload)
- API
- Connector
- SAML Just-In-Time provisioning

Solutions – Challenges

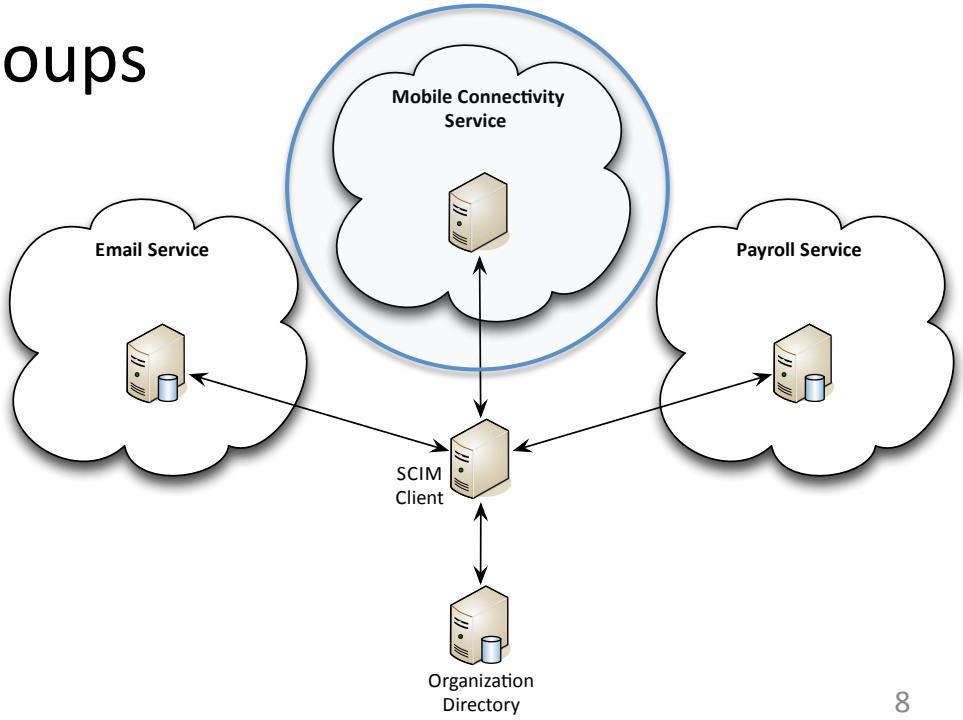
- Manual
  - Does not scale (n users * m services)
  - Security concerns with stale identities
  - Error prone
- Bulk
  - Security concerns with stale identities
  - Inconsistent support among vendors
  - Schema mapping

Solutions – Challenges

- API
  - Vendor specific
  - Schema mapping
- Connector
  - Vendor specific
  - One connector per vendor
  - Sparse backends support

Solutions – Challenges

- SAML JIT
  - Works great when pre-provisioning is not required
  - Works for create/update – no deprovisioning
  - Does not work for groups
  - Schema mapping



Why not ….?

- Existing federations?
  - Works in conjunction with federations
    - Pre-provisioning done via SCIM
    - Authentication done via SAML, OpenID, …
- OAuth?
  - User being provisioned is not on the call path
    - Org to org NOT user to service
  - OAuth is used for protocol authN/Z

Why not ….?

- LDAP?
  - Architectural fit for services
    - LB, tooling, rate limiting, measurement, …
    - Encoding, connections, …
    - Additional flexibility/capability is harder to scale and secure
    - How to bolt OAuth to LDAP?
  - Flat data model
  - Bulk operations not supported
  - Security concerns – real or perceived

Why not ….?

- SPML
  - OASIS Standard (1.0 – 2003; 2.0 – 2006)
  - No core Schema
  - Complex – real or perceived
  - Some traction within enterprises, none for cloud services
  - Limited support - few tools/products

We need to solve

- **Simple!**
- CRUD operations for
  - Users
  - Groups
  - Possibly other identity related objects (e.g. Devices)
- Bulk operations
- Extension semantics (schema & protocol)
- AuthN/AuthZ for protocol
- Security review
- Protocol Binding/mapping for SAML, LDAP

We don’t need to solve

- Defining new authentication/authorization frameworks or mechanisms
- Authorization model for SCIM endpoints
- Managing non-identity related resources