SCIM Issue #19
Adopt the vCard Schema?

Findings, Pro and Con

IETF-85 Atlanta

Background

- Adoption of vCard as the SCIM Schema has been a long-standing suggestion
- Making such a change is a major decision for the SCIM spec, as it represents a significant amount of work and affects other schema changes also under consideration
- Therefore, making a decision sooner is better.

Key Sources

- SCIM and vCard Mapping
  - B. Greevenbosch, et al.
  - http://datatracker.ietf.org/doc/draft-greevenbosch-scim-vcard-mapping/
- vCard RFC6350
  - S. Perreault
  - http://tools.ietf.org/html/rfc6350
- vCard KIND spec for applications
  - Peter Saint-Andre, et al.
  - http://tools.ietf.org/html/rfc6473
- SCIM Use Cases
  - P. Hunt, et al.
  - https://datatracker.ietf.org/doc/draft-zeltsan-scim-use-cases/
- vCard JSON format
  - R. Bhat & P. Saint-Andre
  - http://tools.ietf.org/html/draft-bhat-vcarddav-json-00

Goals for a SCIM Schema

It is granted that the standard needs to provide a schema to encourage adoption…

- Don't try to incorporate every possible attribute or support every use case
- Instead, support the essential core attributes and provide for extensibility for the rest
- Define the interchange format, NOT the storage format
- Don't reinvent wheels that already exist

A nod to other alternatives

- inetOrgPerson
- POCO (was input to vCard 4 and to SCIM)
- XFN (considered as input to vCard 4)
- OMA, W3C (fragmentation)
- Other social networking standards

The Questions

Is a JSON representation of the
attributes and semantics defined by vCard a
viable schema format for SCIM?

Are there enough advantages
inherent in vCard to
justify a change for SCIM?

The Findings

Is a JSON representation of the
attributes and semantics defined by vCard a viable
schema format for SCIM?

YES.

Are there enough advantages
inherent in vCard to
justify a change for SCIM?

NO.

Considerations in evaluating use of vCard for SCIM

- Extensibility (forms & formality)
- Support for meta-data, on attributes and values
- Backward compatibility & the adoption of the current SCIM schema
- Alignment with SCIM goals (a philosophical question)
- Ease of Integration
- Existence of a JSON format spec
- Support for complex objects & relationships
- Support for sub-classes and different resources
  - application types
  - devices

- Notation style was NOT considered.

Pros and Cons for vCard

Aspect/Consideration	Import-ance	Comment / Finding	Pro or Con?
Schema match?	High	There is a close overlap in attributes. In addition, vCard already defines additional resource types, but these can be incorporated into SCIM if desired	Neutral
Extensibility	High	The vCard use of prefixes for extensions requires more parsing & assumptions by the client than the current SCIM approach which use URN namespaces.	Con
Complex Objects	Med	Yes, vCard supports nested objects. Inheritance does not exist in either	Neutral
Meta-Data	High	vCard expressions of meta-data are equivalent to current SCIM. vCard would not add expressions that do not exist yet in SCIM, like meta-data annotations of multi-values.	Neutral
JSON Representation	High	There is a draft defining a natural mapping to of vCard to JSON	Neutral
Backward Compatibility/ Adoption	High	vCard is not yet adopted by any/many identity providers; SCIM is getting traction. A switch means losing that traction.	Con
Lowering 'SCIM barrier' for existing vCard services	Low	It is possible that services which already support vCard would have an easier time using SCIM if vCard were adopted. This is reduced if the JSON representation is required.	Pro
Interoperability	Med	Many x- values are in common usage, but are not formalized	Con

Recommendation

- Our conclusion is the vCard should not be adopted into the SCIM specification

- draft-greevenbosch-scim-vcard-mapping is worth pursuing

- However, if vCard is adopted
  - Recommend supporting ONLY the JSON representation, not the text vCard form
  - Recommend defining IANA names, not relying on common usage of "x-" names

Backup material follows

Breadth of Adoption

- Many libraries exist for vCard, but NOT for the JSON representation
- Many X- terms are in common usage, and are not formalized in the spec or IANA
- vCard is not yet adopted by any/many Identity Providers

SCIM attributes not in vCard

- externalId
- userName, displayName,
- meta/* (except meta/lastModified)
- locale
- active
- password
- costCenter, division, department, manager/managerId, manager/displayName
- entitlements

Required vCard attributes

- FN (formatted name)
  - Equivalent to SCIM name.formatted for Users
  - Equivalent to SCIM displayname for Groups
- VERSION (of the vCard Spec)
  - In SCIM this is implied in the URN of the schemas element

Schema Findings

- A very good match from SCIM into vCard, except:
  - Need conversion from SCIM "id" to vCard "UID" (Greevenbosch)
  - Addresses will need to be split into components

"…mapping between attributes and properties with similar, but not equal, semantics."

-Bert Greevenbosch

Extensibility?

- "x-" prefixed names are used for KIND, attributes, and parameters
  - Caution: "[...] reserved for experimental use, not intended for released products, or for use in bilateral agreements." RFC6350
- "vnd-{PEN}-" prefixes support vendor namespaces
- New names can be IANA registered.
  - New KINDs specify attributes.
- No need for a vCard spec revision

Complex Objects?

- No hard & fast rules, but can do nested structures
- vCards can contain pointers to other vCards
- The "related" parameter supports relationship types, currently:
  - related-type-value = "contact" / "acquaintance" / "friend" / "met" / "co-worker" / "colleague" / "co-resident" / "neighbor" / "child" / "parent" / "sibling" / "spouse" / "kin" / "muse" / "crush" / "date" / "sweetheart" / "me" / "agent" / "emergency"

vCard meta-data

- Some properties already have some meta-data
  - Email (work, home)
  - Home (work, home, fax)

  - Example: Expiration Date
    - "This parameter can be applied to these properties"
    - Will need to work with the Vcard experts to get advice

Comparison of Data Types

- Parameters

  "tel": { "type": ["voice", "video"],

  "uri": "tel:+1-555-555-555" }

- Multi-Values
  - FIXME

Findings re: JSON format

- Is in the first stages of development (IETF draft)
- Maintains the extensibility of vCard
- Defines a name conversion to lower-case
- Parameters are contained objects
- Multi-values are JSON arrays
- Structured properties are nested object trees
- Others are name-value pairs
- Format conversions are TBD
- Schema is TBD (FIXME ask Peter Saint-Andre about this)

About vCard

- FIXME more here, quick summary of:
  - History
  - Current Version
  - Scope
    - Business Cards (Individuals), Groups, Locations, Orgs
    - Extensions for Applications, Systems, "Things", Calendar Events
  - RFC Status
  - Adoption
    - Which existing systems that might use SCIM already support vCard?
      - Active Directory, Jabber
      - Are there extant libraries?
- Terms:
  - KIND = SCIM resource
  - Property = SCIM attribute
  - Parameter = e.g. {work phone, home address} = SCIM multi-valued 'type'
- Subjective impressions:
  - Mostly about human people, not so much for accounts
  - Best for semi-permanent data, not dynamic data