

JSContact:
a more efficient alternative to jCard in RDAP

Mario Loffredo
IIT-CNR/.it Registry
mario.loffredo@iit.cnr.it

- A contact card representation alternative to vCard
 - JSON-based
 - vCard content supported, but no direct mapping
 - Highly structured:
 - Main objects: JSCard, JSCardGroup

- Status
 - Last version: <https://tools.ietf.org/html/draft-stepanek-jscontact-05>
 - Co-author: Robert Stepanek of FastMail
 - Current WG: DISPATCH

- Open issues:
 - Gender
 - Information needed for synchronization (PID and CLIENTPIDMAP)
 - Two-level vs. Multi-level preference

- Coming soon:
 - Version 06
 - Informal document about JSContact - vCard mapping

- Feedback from RDAP Pilot WG ("RDAP Pilot Report", 25 April 2019)
 - The most frequent concern is related to the handling of vCard/jCard:
 - unintuitive
 - very complicated for both consumers and servers
 - uncompliant with REST API standards
 - affecting performance
- JSContact is able to represent the same information as jCard:
 - In particular, it meets the requirements about representing:
 - multilingual information
 - unstructured data
- JSContact is more efficient than jCard:
 - Requires no extra work in serialization/deserialization
 - Is simple to process:
 - follows an object-oriented rather than array-oriented approach
 - includes no jagged arrays
 - prefers maps rather than arrays in implementing collections
 - Defines an unambiguous data model

```
"vcardArray":[
  "vcard",
  [
    ["version", {}, "text", "4.0"],
    ["fn", {}, "text", "Joe User"],
    ["kind", {}, "text", "individual"],
    ["lang", {
      "pref":"1"
    }, "language-tag", "fr"],
    ["lang", {
      "pref":"2"
    }, "language-tag", "en"],
    ["org", {
      "type":"work"
    }, "text", "Example"],
    ["title", {}, "text", "Research Scientist"],
    ["role", {}, "text", "Project Lead"],
    ["adr",
      { "type":"work" },
      "text",
      [
        "",
        "Suite 1234",
        "4321 Rue Somewhere",
        "Quebec",
        "QC",
        "G1V 2M2",
        "Canada"
      ]
    ],
    ["tel",
      { "type":["work", "voice"], "pref":"1" },
      "uri", "tel:+1-555-555-1234;ext=102"
    ],
    ["email",
      { "type":"work" },
      "text", "joe.user@example.com"
    ]
  ]
]
```

```
"jscard":{
  "uid": <handle value>,
  "updated": <"registration"/"last changed" event value>,
  "name": {
    "fullName": { "value": "Joe User" }
  },
  "kind": "individual",
  "preferredContactLanguages": {
    "fr": { "preference": 1 },
    "en": { "preference": 2 }
  },
  "organization": [ { "value": "Example" } ],
  "jobTitle": [ { "value": "Research Scientist" } ],
  "role": [ { "value": "Project Lead" } ],
  "addresses": [
    {
      "type": "work",
      "extension": "Suite 1234",
      "street": "4321 Rue Somewhere",
      "locality": "Quebec",
      "region": "QC",
      "postcode": "G1V 2M2",
      "country": "Canada"
    }
  ],
  "phones": [
    {
      "type": "voice",
      "label": "work",
      "isPreferred": true,
      "value": "tel:+1-555-555-1234;ext=102"
    }
  ],
  "emails": [
    {
      "type": "work",
      "value": "joe.user@example.com"
    }
  ]
}
```

```
"vcardArray": [
  "vcard",
  [
    [ "version", {}, "text", "4.0" ],
    [ "fn",
      { "language": "ja", "altid": "1" },
      "text",
      "大久保 正仁"
    ],
    [ "fn",
      { "language": "en", "altid": "1" },
      "text",
      "Okubo Masahito"
    ],
    [ "title",
      { "language": "ja", "altid": "1" },
      "text",
      "事務局長"
    ],
    [ "title",
      { "language": "en", "altid": "1" },
      "text",
      "Secretary General"
    ],
    [ "kind", {}, "text", "individual" ],
    [ "lang", { "pref": "1" }, "language-tag", "ja" ],
    [ "lang", { "pref": "2" }, "language-tag", "en" ]
  ]
]
```

```
"jscard":{
  "uid": <handle value>,
  "updated": <"registration"/"last changed" event value>,
  "name": {
    "fullName": {
      "value": "大久保 正仁",
      "language": "ja",
      "localizations": {
        "en": "Okubo Masahito"
      }
    }
  },
  "jobTitle": [
    {
      "value": "事務局長",
      "language": "ja",
      "localizations": {
        "en": "Secretary General"
      }
    }
  ],
  "kind": "individual",
  "preferredContactLanguages": {
    "ja": { "preference": 1 },
    "en": { "preference": 2 }
  }
}
```

```
"vcardArray": [
  "vcard",
  [
    [ "version", {}, "text", "4.0" ],
    [ "fn",
      { "altid": "1", "language": "zh-Hant-TW" },
      "text",
      "台灣固網股份有限公司"
    ],
    [ "fn",
      { "altid": "1", "language": "en" },
      "text",
      "Taiwan Fixed Network CO.,LTD."
    ],
    [ "kind", {}, "text", "individual" ],
    [ "adr",
      { "label": "8F., No.172-1, Sec.2, Ji-Lung Rd," },
      "text",
      [ "", "", "", "", "", "", "" ]
    ],
    [ "tel", { "type": "voice" }, "text", "" ],
    [ "tel", { "type": "fax" }, "text", "" ],
    [ "email", {}, "text", "" ]
  ]
]
```

```
"jscard":{
  "uid": <handle value>,
  "updated": <"registration"/"last changed" event value>,
  "name": {
    "fullName": {
      "value": "Taiwan Fixed Network CO.,LTD.",
      "language": "en",
      "localizations": {
        "zh-Hant-TW": "台灣固網股份有限公司"
      }
    }
  },
  "kind": "individual",
  "addresses": [
    {
      "type": "work",
      "fullAddress": {
        "value": "8F., No.172-1, Sec.2, Ji-Lung Rd,"
      }
    }
  ],
  "phones": [
    {
      "type": "voice",
      "value": ""
    },
    {
      "type": "fax",
      "value": ""
    }
  ],
  "emails": [
    {
      "value": ""
    }
  ]
}
```

- rdap_level_0:
 - jCard required
 - jsCard optional
 - requested by query parameter jscard=1
 - "jscard" in place of "vcardArray" in the response
 - "jscard_level_0" added to rdapConformance

- rdap_level_1:
 - jCard optional
 - requested by query parameter jcard=1
 - "vcardArray" in place of "jscard" in the response
 - "vcardArray_level_0" added to rdapConformance
 - jsCard required

- Advantages:
 - Only one contact representation would be included into the response
 - The response would always be compliant to RFC7483
 - The backward compatibility would be guaranteed throughout the transition
 - Servers and clients could execute their transitions independently