

AGGREGATED SERVICE DISCOVERY

IETF 86 Orlando
March 2013
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DRAFT

- draft-daboo-aggregated-service-discovery
- User input is an account identifier (typically their email address, and password - perhaps prompted on-demand).
- `_servicediscovery._tcp` SRV lookup to determine an HTTP server to connect to (this could be an optional step).
- An HTTP well-known resource from which a JSON document can be retrieved (authentication & SSL required).
- The JSON document contains the aggregated service information provided by the domain hosting the well-known resource.

JSON DOCUMENT FORMAT # 1

- Single JSON object with two members:
 1. Encapsulates information about the service provider (name, contacts details, logo, etc).
 2. A list of service objects, each service: type, name, connectivity details (URI or host, port), security setup (user TLS, certificates).
- Each service also contains a "group" member to group a bunch of services together (IMAP and POP3), and a "priority" member to indicate the preferred choice of protocols when more than one alternative exists.

JSON DOCUMENT FORMAT #2

- JSON content rules (draft-newton-json-content-rules) are used to describe/document the format:

```
; root object
root {
  provider,
  entries
}

; ----- provider -----
; Contains information describing the service provider, that can be used by clients to "group"
; individual services together under a common name or section when presenting details to the user.
provider "provider" {
  provider_name,
  ?description,
  ?image,
  ?contact,
  ?manage,
  ?password_reset,
  ?ttl
}

; ----- entries -----
; List of services.
entries "entries" [ *entry ]

entry {
  name,
  service,
  ?(group, priority),
  uri / (host, ?port),
  ?tls,
  ?auth,
}
```

JSON DOCUMENT FORMAT #2

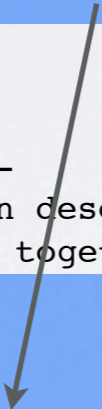
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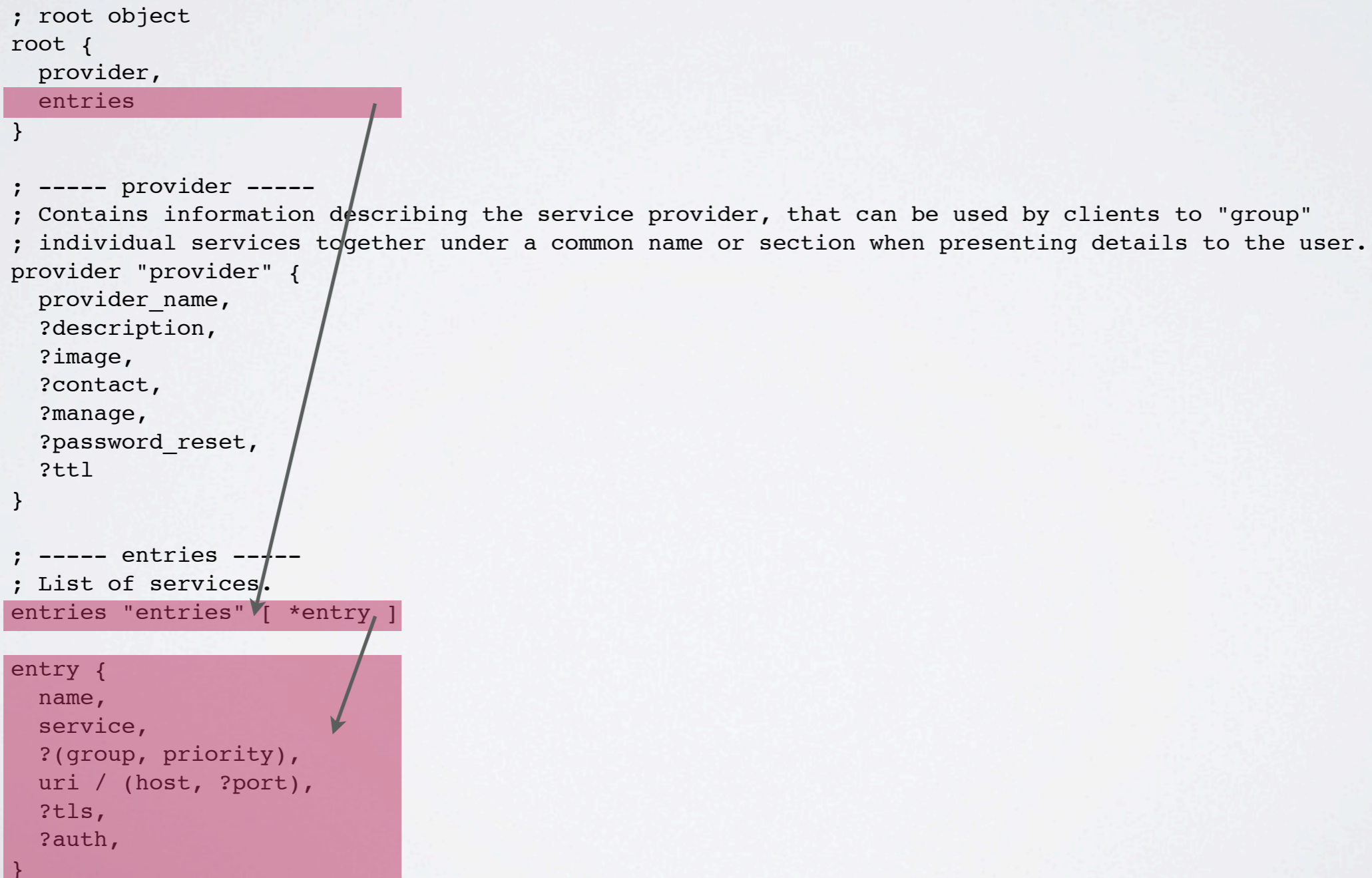
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```



JSON DOCUMENT FORMAT #3

- Extensions handled by adding members to “provider” or “entry” elements:
 - IANA registered names
 - Vendor names (using “{...}xyz” style namespacing) - i.e., any member starting with “{” is a vendor name.
- Service names:
 - IANA registered values (ports registry)
 - Vendor names (using “{...}xyz” style namespacing).

JSON DOCUMENT FORMAT #4

- Service priority example:

```
{
  "name" : "Corporate Mail",
  "service" : "imap",
  "group" : "mail-access-1",
  "priority" : 2,
  "uri" : "imap:imap.example.com",
  "tls" : {
    "required" : true
  },
  "auth" : ["CRAM-MD5"]
},
```

```
{
  "name" : "Corporate Mail",
  "service" : "pop3",
  "group" : "mail-access-1",
  "priority" : 1,
  "host" : "mail.example.com",
  "port" : 110,
  "tls" : {
    "required" : true
  },
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},
```


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  },  
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  "tls" : {  
    "required" : true  
  },  
  "auth" : ["CRAM-MD5"]  
},
```

IMAP has higher priority



EXAMPLE PROTOCOL

```
GET /.well-known/servicediscovery?id=cyrus@example.com HTTP/1.1
Host:example.com:443
Authorization: basic QmFzZTY0IGl3IGVhc3kgdG8gZGVjb2Rl
```

```
HTTP/1.1 200 OK
Date: Wed, 20 Feb 2013 09:32:12 GMT
Content-Type: application/json
Content-Length: xxx
```

```
{
  "provider" : {
    "name" : "Super-duper ISP",
    "contact" : { "email" : "superduper@example.com" },
    "manage" : "http://www.example.com/myaccount.html",
    "ttl" : 2592000
  },
  "entries" : [
    {
      "name" : "Corporate Mail",
      "service" : "imap",
      "uri" : "imap:imap.example.com",
      "tls" : { "required" : true },
      "auth" : ["CRAM-MD5"]
    },
    {
      "name" : "Corporate Mail",
      "service" : "submission",
      "host" : "mail.example.com",
      "port" : 587,
      "tls" : { "required" : true },
      "auth" : ["CRAM-MD5"]
    }
  ]
}
```

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SUMMARY

- Simple discovery using a JSON document format to describe services.
- Extensible via IANA or vendor names.
- Can be implemented as a “static” document at the .well-known URI (deployment becomes trivial).
- Could support delegation of service information via “links”, though preference is to minimize the number of requests a client would need to make.
- Security context well-defined - the .well-known resource is used only for service discovery content and not for other information that may be of a different nature.