

Overview

Purpose: Enabling a CSP to register Cloud Names, Cloud Numbers, and Personal Clouds for individuals.

Details: Using Neustar as Personal Cloud Hosting Environment. Using Respect Network as Cloud Name and Cloud Number Registrar.

Technical Details

CSP Cloud Name: @ownyourinfo

CSP Cloud Number: [@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962

CSP Secret Token: ofniruoynwo

CSP Global Salt: 8b46d9b1-ffff-4f7b-8cc2-2d41c8ac8d32

Respect Network Registrar XDI endpoint:

<https://registration.respectnetwork.net/registration>

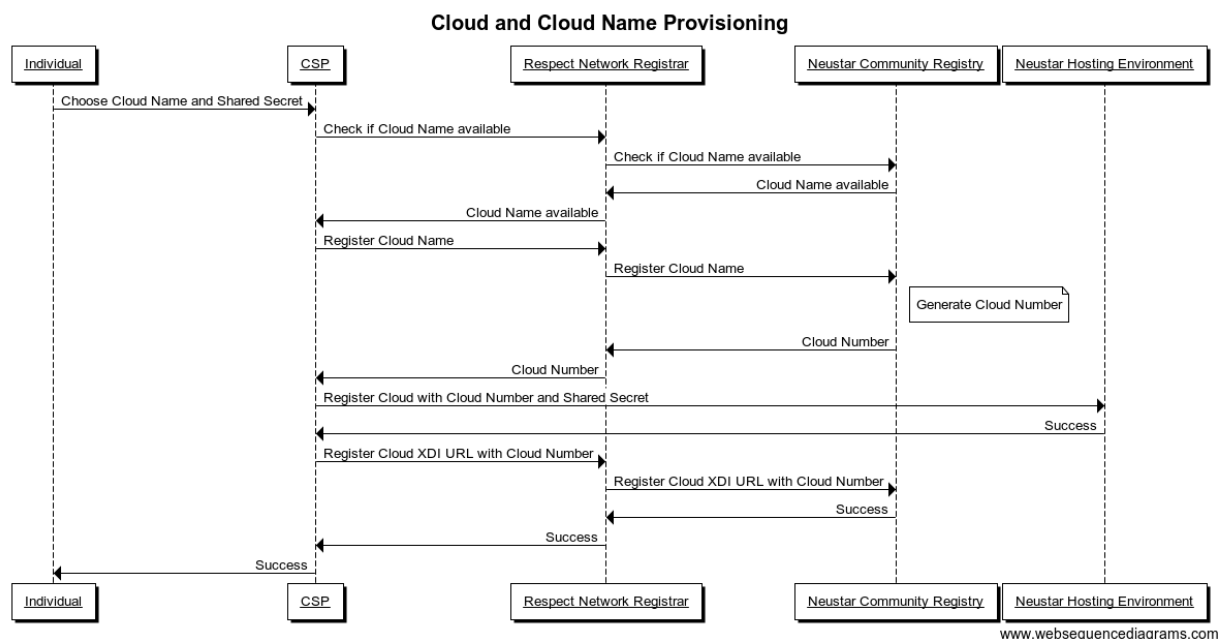
Neustar Hosting Environment XDI endpoint:

<http://clouds.ownyourinfo.com:14440/ownyourinfo-registry>

Cloud XDI endpoint base:

<http://clouds.ownyourinfo.com:14440/ownyourinfo-users/>

Flow Diagram



Step 1: Check if Cloud Name available

This step checks if a Cloud Name is available for registration in the Neustar Community Registry.

XDI Message

In XDI/JSON:

```
{
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[msg]!l/$is()": [
    "([@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59)"
  ],
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[msg]!l<$secret><$token>&/&": "ofniruoytwo",
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[msg]!l/$do": [
    "+registrar$do"
  ],
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[msg]!l$do/$get": [
    "(=julia)"
  ]
}
```

Fields

[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962: CSP Cloud Number

[@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59: Respect Network Cloud Number

ofniruoytwo: CSP Secret Token

=julia: Individual's Cloud Name

[=]!:uuid:b6e1e78d-de97-7122-b6e1-e78dde977122: Individual's Cloud Number

Executing the XDI message

Send the above XDI message as an HTTP POST to the Respect Network Registrar XDI endpoint:

```
http://mycloud.neustar.biz:12230/
```

With the Content-Type HTTP header:

```
Content-Type: application/xdi+json
```

XDI Response if available

In XDI/JSON:

```
{ }
```

XDI Response if not available

In XDI/JSON:

```
{
  "(=julia)/$ref": [
    "([=]!:uuid:b6e1e78d-de97-7122-b6e1-e78dde977122)"
  ]
}
```

Step 2: Register Cloud Name

This step provisions the Individual's Cloud Name and Cloud Number in the Neustar Community Registry, through the Respect Network Registrar.

XDI Message

In XDI/JSON:

```
{
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!l/$is()": [
    "([@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59)"
  ],
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!l<$secret><$token>&/&": "ofniruoyngo",
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!l/$do": [
    "+registrar$do"
  ],
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!l$do/$set": [
    {
      "(=julia)/$ref": [
        "{}"
      ]
    }
  ]
}
```

Fields

[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962: CSP Cloud Number

[@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59: Respect Network Cloud Number

ofniruoyngo: CSP Secret Token

=julia: Individual's Cloud Name

[=]!:uuid:b6e1e78d-de97-7122-b6e1-e78dde977122: Individual's Cloud Number

Executing the XDI message

Send the above XDI message as an HTTP POST to the Respect Network Registrar XDI endpoint:

```
http://mycloud.neustar.biz:12230/
```

With the Content-Type HTTP header:

```
Content-Type: application/xdi+json
```

XDI Response

In XDI/JSON:

```
{
  "(=julia)/$ref": [
    "([=]!:uuid:b6e1e78d-de97-7122-b6e1-e78dde977122)"
  ]
}
```

Step 3: Register Cloud with Cloud Number and Shared Secret

This step serves to provision a new Cloud for a given Cloud Name and Cloud Number.

XDI Message

In XDI/JSON format:

```
{
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!l/$is()": [
    "([@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962)"
  ],
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!l<$secret><$token>&/&": "ofniruoytwo",
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!l/$do": [
    "$do"
  ],
  "[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!l$do/$set": [
    {
      "(=julia)/$ref": [
        "([=]!:uuid:b6e1e78d-de97-7122-b6e1-e78dde977122)"
      ],
      "([=]!:uuid:b6e1e78d-de97-7122-b6e1-e78dde977122)<$digest><$secret><$token>&/&":
        "xdi2-digest:c5ff9d7e-ba4c-48e4-a079-e5061a99eb42:638d4b081b0a7e8e68ff32dfea2401da5d9c0446774108c1a0d85094d2b4ade132b6a504f966ccb04eb2f3abb68a8df4e40b636ed6f71106d581e71b8f6c557e",
      "([=]!:uuid:b6e1e78d-de97-7122-b6e1-e78dde977122$xdic<$uri>&/&":
        "http://clouds.ownyourinfo.com:14440/ownyourinfo-users/%5B%3D%5D%21%3Auuid%3Ab6e1e78d-de97-7122-b6e1-e78dde977122"
    }
  ]
}
```

Fields

[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962: CSP Cloud Number

ofniruoytwo: CSP Secret Token

=julia: Individual's Cloud Name

[=]!:uuid:b6e1e78d-de97-7122-b6e1-e78dde977122: Individual's Cloud Number

xdi2-digest:c5ff9d7e-ba....: Individual's Digest Secret Token

http://clouds.ownyourinfo.com:14440/ownyourinfo-users/%5B%3D%5D%21%3Auuid%3Ab6e1e78d-de97-7122-b6e1-e78dde977122: Individual's Cloud's XDI endpoint

Calculating the Digest Secret Token

Choose a random local salt UUID. Calculate the Digest Secret Token using the following formula:

```
digest_secret_token = "xdi2-digest:" + local_salt + ":" + SHA-512 ( global_salt + ":" + local_salt + ":"
+ SHA-512 ( global_salt + ":" + BASE64 ( secret_token ) ) )
```

Example for the secret token "mysecret" and random local salt UUID "956a1f01-4d41-4281-b993-ef1911ea7b23" and CSP global salt "8b46d9b1-ef1911ea7b23":

```
digest_secret_token = "xdi2-digest:" + "956a1f01-4d41-4281-b993-ef1911ea7b23" + ":" + SHA-512 (
"8b46d9b1-ef1911ea7b23" + ":" + "956a1f01-4d41-4281-b993-ef1911ea7b23" + ":" + SHA-512 (
"8b46d9b1-ef1911ea7b23" + ":" + BASE64 ( "mysecret" ) ) )
```

Example result:

```
xdi2-digest:956a1f01-4d41-4281-b993-ef1911ea7b23:91dflc74e2e54dcb4b2e26f7dcecc374877e9431e5864fb84d075b0a66ddf0cf2c49c86fe3e141fc62001f0cb259472540faed799fd1717992c66101418bdb013
```

Calculating the Cloud's XDI endpoint

Calculate the Cloud's XDI endpoint using the following formula:

```
cloud_xdi_endpoint = cloud_xdi_endpoint_base + URL_ENCODE ( cloud_number )
```

Example for the Cloud XDI endpoint base "http://clouds.ownyourinfo.com:14440/ownyourinfo-users/" and Cloud Number "[=]! :uuid:b6e1e78d-de97-7122-b6e1-e78dde977122":

```
cloud_xdi_endpoint = "http://clouds.ownyourinfo.com:14440/ownyourinfo-users/" + URL_ENCODE ( "[=]! :uuid:b6e1e78d-de97-7122-b6e1-e78dde977122" )
```

Example result:

```
http://clouds.ownyourinfo.com:14440/ownyourinfo-users/%5B%3D%5D%21%3Auuid%3Ab6e1e78d-de97-7122-b6e1-e78dde977122
```

Executing the XDI message

Send the above XDI message as an HTTP POST to the Neustar Hosting Environment XDI endpoint:

```
http://clouds.ownyourinfo.com:14440/ownyourinfo-registry
```

With the Content-Type HTTP header:

```
Content-Type: application/xdi+json
```

XDI Response

In XDI/JSON:

```
{ }
```

Step 4: Register Cloud XDI URL with Cloud Number

XDI Message

This step serves to make the Individual's Cloud's XDI endpoint discoverable from the Individual's Cloud Name and Cloud Number.

```
{
  "[@]!:"uid:f34559e4-6b2b-d962-f345-59e46b2bd962[msg]!1/$is()": [
    "([@]!:"uid:299089fd-9d81-3c59-2990-89fd9d813c59)"
  ],
  "[@]!:"uid:f34559e4-6b2b-d962-f345-59e46b2bd962[msg]!1<$secret><$token>&/&": "ofniruoytwo",
  "[@]!:"uid:f34559e4-6b2b-d962-f345-59e46b2bd962[msg]!1/$do": [
    "+registrar$do"
  ],
  "[@]!:"uid:f34559e4-6b2b-d962-f345-59e46b2bd962[msg]!1$do/$set": [
    {
      "([=]!:"uid:b6e1e78d-de97-7122-b6e1-e78dde977122)$xdi<$uri>&/&":
      "http://clouds.ownyourinfo.com:14440/ownyourinfo-users/%5B%3D%5D%21%3Auid%3Ab6e1e78d-de97-7122-b6e1-e78dde977122"
    }
  ]
}
```

Fields

[@]!:"uid:f34559e4-6b2b-d962-f345-59e46b2bd962": CSP Cloud Number

[@]!:"uid:299089fd-9d81-3c59-2990-89fd9d813c59": Respect Network Cloud Number

ofniruoytwo: CSP Secret Token

[=]!:"uid:b6e1e78d-de97-7122-b6e1-e78dde977122": Individual's Cloud Number

http://clouds.ownyourinfo.com:14440/ownyourinfo-users/%5B%3D...: Individual's Cloud's XDI endpoint

Executing the XDI message

Send the above XDI message as an HTTP POST to the Respect Network Registrar XDI endpoint:

```
http://mycloud.neustar.biz:12230/
```

With the Content-Type HTTP header:

```
Content-Type: application/xdi+json
```

XDI Response

In XDI/JSON:

```
{ }
```