**Personal Cloud Starter Set For:** Cloud Service Provider (CSP)

## 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

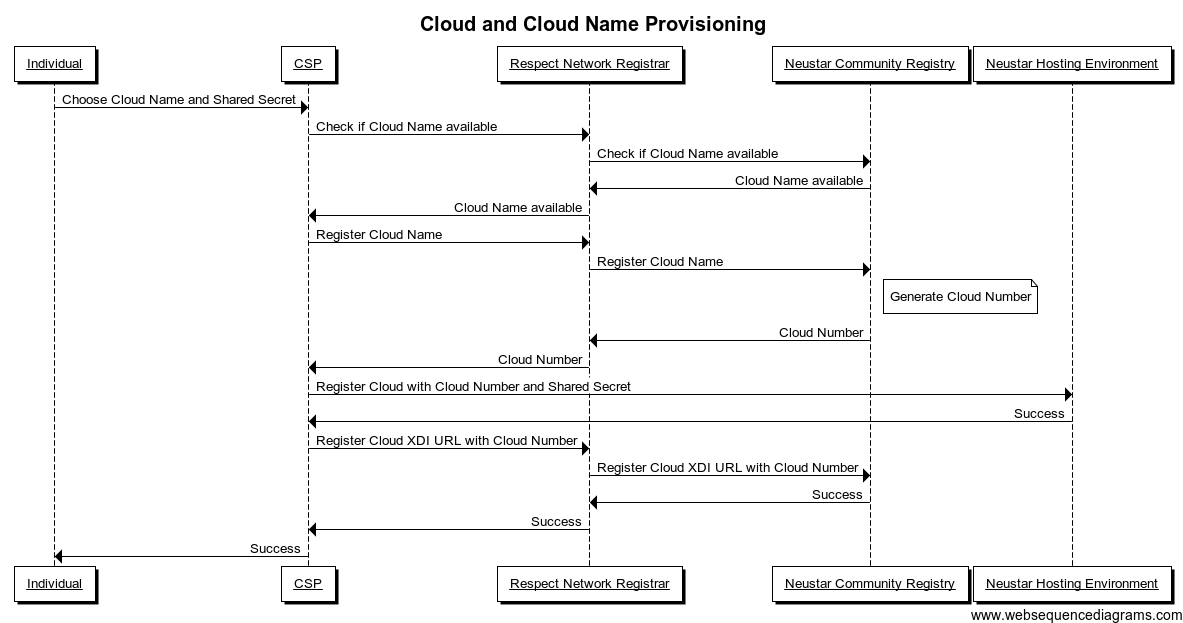
**CSP Global Salt:** 8b46d9b1-efff-4f7b-8cc2-2d41c8ac8d32

**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[$msg]!1/$is()": [

"([@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59)"

],

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1<$secret><$token>&/&": "ofniruoynwo",

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1/$do": [

"+registrar$do"

],

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1$do/$get": [

"(=julia)"

]

}

## Fields

[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962: CSP Cloud Number  
[@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59: Respect Network Cloud Number  
ofniruoynwo: 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[$msg]!1/$is()": [

"([@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59)"

],

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1<$secret><$token>&/&": "ofniruoynwo",

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1/$do": [

"+registrar$do"

],

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1$do/$set": [

{

"(=julia)/$ref": [

"{}"

]

}

]

}

## Fields

[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962: CSP Cloud Number  
[@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59: Respect Network Cloud Number  
ofniruoynwo: 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[$msg]!1/$is()": [

"([@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962)"

],

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1<$secret><$token>&/&": "ofniruoynwo",

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1/$do": [

"$do"

],

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1$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$xdi<$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  
ofniruoynwo: 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...: 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-efff-4f7b-8cc2-2d41c8ac8d32”:

digest\_secret\_token = "xdi2-digest:" + "956a1f01-4d41-4281-b993-ef1911ea7b23" + ":" + SHA-512 ( "8b46d9b1-efff-4f7b-8cc2-2d41c8ac8d32" + ":" + "956a1f01-4d41-4281-b993-ef1911ea7b23" + ":" + SHA-512 ( "8b46d9b1-efff-4f7b-8cc2-2d41c8ac8d32" + ":" + BASE64 ( "mysecret" ) ) )

Example result:

xdi2-digest:956a1f01-4d41-4281-b993-ef1911ea7b23:91df1c74e2e54dcb4b2e26f7dcec374877e9431e5864fb84d075b0a66ddf0cf2c49c86fe3e141fc62001f0cb259472540faed799fd1717992c66101418bdb013

## 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.

{

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1/$is()": [

"([@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59)"

],

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1<$secret><$token>&/&": "ofniruoynwo",

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1/$do": [

"+registrar$do"

],

"[@]!:uuid:f34559e4-6b2b-d962-f345-59e46b2bd962[$msg]!1$do/$set": [

{

"([=]!:uuid:b6e1e78d-de97-7122-b6e1-e78dde977122)$xdi<$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  
[@]!:uuid:299089fd-9d81-3c59-2990-89fd9d813c59: Respect Network Cloud Number  
ofniruoynwo: CSP Secret Token  
 [=]!:uuid: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:

{ }