

InterfaceDesign

Malinconico Aniello Paolo (s229171)

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1 Rest Service Design

1.1 Resources

The links of the resources:

- | | |
|---|---|
| - <i>localhost:8080/NffgService/rest/</i> | Base URL of the service |
| - <i>Nffgs</i> | Give access to a collection of Nffgs |
| - <i>Nffgs/{name}</i> | Give access to a single Nffg |
| - <i>Policies</i> | Give access to a collection of Policies |
| - <i>Policies/{name}</i> | Give access to a single Policy |
| - <i>Policies/Nffg</i> | Give access to set of Policy referenced to a particular Nffg |
| - <i>Policies/VerificationTime</i> | Give access to set of Policy referenced to a VerificationTime |

| Resources | Method | Request Body | Status | Response Body | Meaning |
|--------------|--------|--------------|--|----------------|-----------------|
| Nffgs/{name} | POST | Nffg | 201 Created 403 Forbidden 500 Internal Error | Nffg - - | add single nffg |

1.2 Operations

1.2.1 Load Single Nffg

Loads the known NFFG with the given name into the remote service.

This operation can fail if an NFFG with the same name already exists in the remote service.

Resorse:

http://localhost:8080/NffgService/rest/Nffgs/{name}

Method: POST

- **Input Request**

- **Content-Type:** application/xml

```

<NffgService>
  <Nffgs>
    <Nffg Name="Nffg1"                               UpdateTime="2016-09-25T16:02:20">
      <Nodes>
        <Node>
          .....
        </Node>
      </Nodes>
      <Policies>
        <Policy>
          .....
        </Policy>
      </Policies>
    </Nffg>
  </Nffgs>
</NffgService>

```

- **Output Response**

- **Content-Type:** application/xml

| Resources | Method | Request Body | Status | Response Body | Meaning |
|-----------|--------|--------------|--------------------|---------------|-----------------------------|
| Nffgs | POST | NffgService | 201 Created | NffgService | add set of nffgs and policy |
| | | | 403 Forbidden | - | |
| | | | 500 Internal Error | - | |

1.2.2 Load both Nffg e Policy

Loads all the known NFFGs and policies to the remote service (including verification results of policies when available). This operation can fail if an NFFG with the same name as one of the known NFFGs already exists in the remote service. If a policy with the same name as one of the known ones already exists in the remote service, the existing policy has to be overwritten.

Resorse:

http://localhost:8080/NffgService/rest/Nffgs/

Method: POST

- **Input Request**

- **Content-Type:** application/xml

```

<NffgService>
  <Nffgs>
    <Nffg Name="Nffg1"                               UpdateTime="2016-09-25T16:02:20">
      <Nodes>
        <Node>
          .....
        </Node>
      </Nodes>
      <Policies>
        <Policy>
          .....
        </Policy>
      </Policies>
    </Nffg>
    .....
  </Nffgs>
</NffgService>

```

- **Output Response**

- **Content-Type:** application/xml

| Resources | Method | Request Body | Status | Response Body | Meaning |
|---------------|--------|--------------------|---|--------------------|-----------------------------|
| Policies/name | POST | ReachabilityPolicy | 201 Created 403 Forbidden 404 Not Found 500 Internal Error | ReachabilityPolicy | add/update single policy |

1.2.3 Load Reachability Policy

Loads a new reachability policy into the remote service given the policy properties. If a policy with the given name already exists in the service, the new policy substitutes the old one. The new policy is uploaded without a verification result.

Resorse:

http://localhost:8080/NffgService/rest/Policies/{name}

Method: POST

- **Input Request**

- **Content-Type:** application/xml

```

<Policies>
  <ReachabilityPolicy PolicyResult="false"
    name="Policy12">
    <Nffg>Nffg1</Nffg>
    <SrcNode name="WEBCLIENT2" />
    <DstNode name="WEBSERVER7" />
  </ReachabilityPolicy>
  ....
  <TraversalPolicy PolicyResult="true" name="Policy18">
    <Nffg>Nffg1</Nffg>
    <SrcNode name="WEBSERVER3" />
    <DstNode name="MAILCLIENT0" />
    <TraversedFTypes>
      <FType>VPN</FType>
      <FType>WEB_SERVER</FType>
      <FType>SPAM</FType>
    </TraversedFTypes>
  </TraversalPolicy>
  ....
</Policies>

```

| Resources | Method | Request Body | Status | Response Body | Meaning |
|---------------|--------|--------------|--|--------------------------------------|------------------|
| Policies/name | DELETE | - | 200 OK 204 No Content 500 Internal Error | ReachabilityPolicy or <i>null</i> | unload policy |

1.2.4 unLoad Reachability Policy by name

Unloads the reachability policy with a given name from the remote service.

Resource:

http://localhost:8080/NffgService/rest/Policies/{name}

Method: DELETE

- **Input Request**

- **Content-Type:** text/plain
- **Example :**

DELETE /NffgService/rest/Policies/Policy1 HTTP/1.1

- **Output Response**

- **Content-Type:** application/xml
- **Example :**

```
<ReachabilityPolicy PolicyResult="false"
name="Policy12">
  <Nffg>Nffg1</Nffg>
  <SrcNode name="WEBCLIENT2" />
  <DstNode name="WEBSERVER7" />
</ReachabilityPolicy>
```

| Resources | Method | Request Body | Status | Response Body | Meaning |
|--|--------|--------------|--|------------------------------|------------------|
| Policies/{name}- verificationResult | GET | - | 200 OK 204 No Content 500 Internal Error | VerificationResult - - | Test a policy |

1.2.5 Test Reachability Policy by name

Asks the service to test one of the previously uploaded reachability policies.

Resorse:

http://localhost:8080/NffgService/rest/Policies/{name}/verificationResult

Method: GET

- **Input Request**

- **Content-Type:** text/plain
- **Example :**
GET /NffgService/rest/Policies/Policy10/verificationResult HTTP/1.1

- **Output Response**

- **Content-Type:** application/xml
- **Example :**

```
<VerificationResult>
  <VerificationResult>true</VerificationResult>
  <VerificationMessage>Policy verifcarion result true</VerificationMessage>
  <VerificationTime>2016-09-25T11:10:20.000+02:00</VerificationTime>
</VerificationResult>
```


| Resources | Method | Request Body | Status | Response Body | Meaning |
|------------------|--------|--------------|--|---------------|----------|
| Nffgs/ {name} | GET | - | 200 OK 403 Forbidden 404 Not found 500 Internal Error | Nffg | Get nffg |

1.2.6 Get Nffg by name

Request the service to get one of the previously uploaded nffg.

Resource:

http://localhost:8080/NffgService/rest/Nffgs/{name}

Method: GET

- **Input Request**

- **Content-Type:** text/plain
- **Example :**
GET /NffgService/rest/Nffgs/Nffg1 HTTP/1.1

- **Output Response**

- **Content-Type:** application/xml
- **Example :**

```

<NffgService>
  <Nffgs>
    <Nffg Name="Nffg1"                UpdateTime="2016-09-25T16:02:20">
      <Nodes>
        <Node>
          .....
        </Node>
      </Nodes>
      <Policies>
        <Policy>
          .....
        </Policy>
      </Policies>
    </Nffg>
  </Nffgs>
</NffgService>

```

| Resources | Method | Request Body | Status | Response Body | Meaning |
|-----------|--------|--------------|---|---------------|---------------|
| Nffgs/ | GET | - | 200 OK 404 Not found 500 Internal Error | Nffgs | Get all nffgs |

1.2.7 Get all Nffg

Request the service to get all of the previously uploaded nffgs.

Resource:

http://localhost:8080/NffgService/rest/Nffgs/

Method: GET

- **Input Request**

- **Content-Type:** text/plain
- **Example :**
GET /NffgService/rest/Nffgs/ HTTP/1.1

- **Output Response**

- **Content-Type:** application/xml
- **Example :**

```

<NffgService>
  <Nffgs>
    <Nffg Name="Nffg1"                UpdateTime="2016-09-25T16:02:20">
      <Nodes>
        <Node>
          .....
        </Node>
      </Nodes>
      <Policies>
        <Policy>
          .....
        </Policy>
      </Policies>
    </Nffg>
    ....
  </Nffgs>
</NffgService>

```

| Resources | Method | Request Body | Status | Response Body | Meaning |
|-----------|--------|--------------|---|---------------|------------------|
| Policies/ | GET | - | 200 OK 404 Not found 500 Internal Error | Policies | Get all policies |

1.2.8 Get all Policy

Request the service to get all of the previously uploaded policies.

Resource:

http://localhost:8080/NffgService/rest/Policies/

Method: GET

- **Input Request**

- **Content-Type:** text/plain
- **Example :**
GET /NffgService/rest/Policies/ HTTP/1.1

- **Output Response**

- **Content-Type:** application/xml
- **Example :**

```

<Policies>
  <ReachabilityPolicy PolicyResult="false"
    name="Policy12">
    <Nffg>Nffg1</Nffg>
    <SrcNode name="WEBCLIENT2" />
    <DstNode name="WEBSERVER7" />
  </ReachabilityPolicy>
  <ReachabilityPolicy PolicyResult="false"
    name="Policy127">
    <Nffg>Nffg4</Nffg>
    <SrcNode name="WEBCLIENT2" />
    <DstNode name="WEBSERVER7" />
  </ReachabilityPolicy>
</Policies>

```

| Resources | Method | Request Body | Status | Response Body | Meaning |
|---------------------------|--------|--------------|---|---------------|-------------------------------|
| Policies/ Nffgs/{name} | GET | - | 200 OK 404 Not found 500 Internal Error | Policies | Get all policies of a nffg |

1.2.9 Get all Policy of a specific Nffg

Request the service to get all of the previously uploaded policies of a specific uploaded nffg.

Resource:

http://localhost:8080/NffgService/rest/Policies/Nffgs/{name}

Method: GET

- **Input Request**

- **Content-Type:** text/plain
- **Example :**
GET /NffgService/rest/Policies/Nffgs/Nffg1 HTTP/1.1

- **Output Response**

- **Content-Type:** application/xml
- **Example :**

```

<Policies>
  <ReachabilityPolicy PolicyResult="false"
    name="Policy12">
    <Nffg>Nffg1</Nffg>
    <SrcNode name="WEBCLIENT2" />
    <DstNode name="WEBSERVER7" />
  </ReachabilityPolicy>
  <ReachabilityPolicy PolicyResult="false"
    name="Policy127">
    <Nffg>Nffg1</Nffg>
    <SrcNode name="WEBCLIENT2" />
    <DstNode name="WEBSERVER7" />
  </ReachabilityPolicy>
</Policies>

```

| Resources | Method | Request Body | Status | Response Body | Meaning |
|----------------------------------|--------|--------------|---|---------------|---------------------------------------|
| Policies/verificationTime/{time} | GET | - | 200 OK 404 Not Found 500 Internal Error | Policies | Get all policies by Verification Time |

1.2.10 Get all Policy by Verification Time

Request the service to get all of the previously uploaded policies identified Verification Time.

Resource:

http://localhost:8080/NffgService/rest/Policies/verificationTime/{time}

Method: GET

• Input Request

- **Content-Type:** text/plain
- **Example :**
GET /NffgService/rest/Policies/VerificationTime/1477552820427

• Output Response

- **Content-Type:** application/xml
- **Example :**

```

<Policies>
  <ReachabilityPolicy PolicyResult="true" name="Policy53">
    <VerificationResult>
      <VerificationResult>true</VerificationResult>
      <VerificationMessage>Policy verification result true</VerificationMessage>
      <VerificationTime>2016-09-27T20:51:20.000+02:00</VerificationTime>
    </VerificationResult>
    <Nffg>Nffg3</Nffg>
    <SrcNode name="MAILSERVER4" />
    <DstNode name="MAILCLIENT0" />
  </ReachabilityPolicy>
</Policies>

```