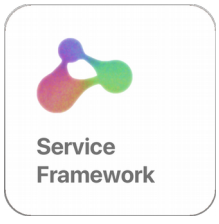
NOOXY Service Framework 1.0

Started by Yves Chen, 10, Mar, 2018



Preinstalled Service list

Shell Service(for superuser remotely manage NSF)
Profile Service (mange user icon, phone, email etc.)
Grouping Service()
Analytic Service(gather User info, recognizing is it IoT or browser etc)

Document Overview

1. Orientation
2. Architecture
3. serverside module
4. clientside module
5. Service, ServiceSocket and ServiceAPI
6. Activities and ActivitySocket(Client socket)
7. NSP(NOOXY Service Protocol)
8. Preinstalled Service
9. Setting file

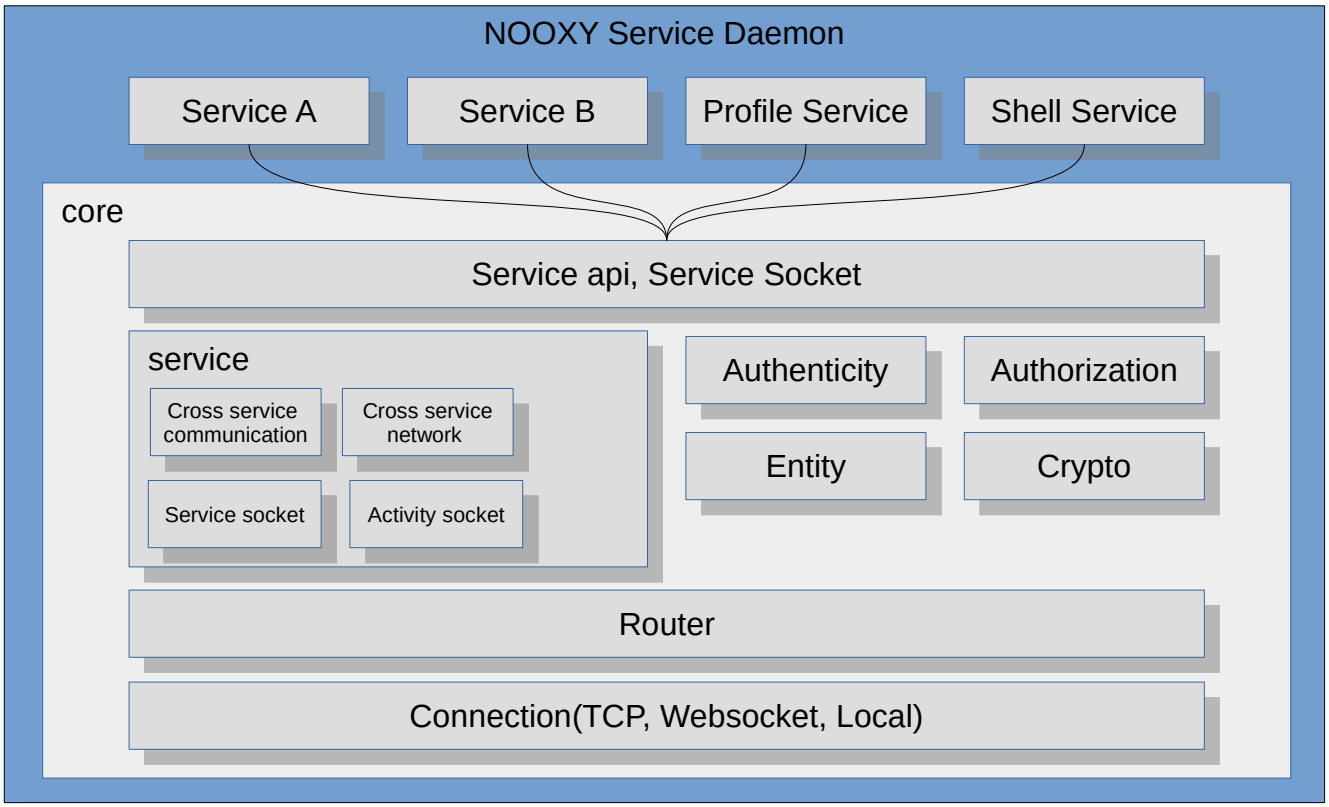
Orientation

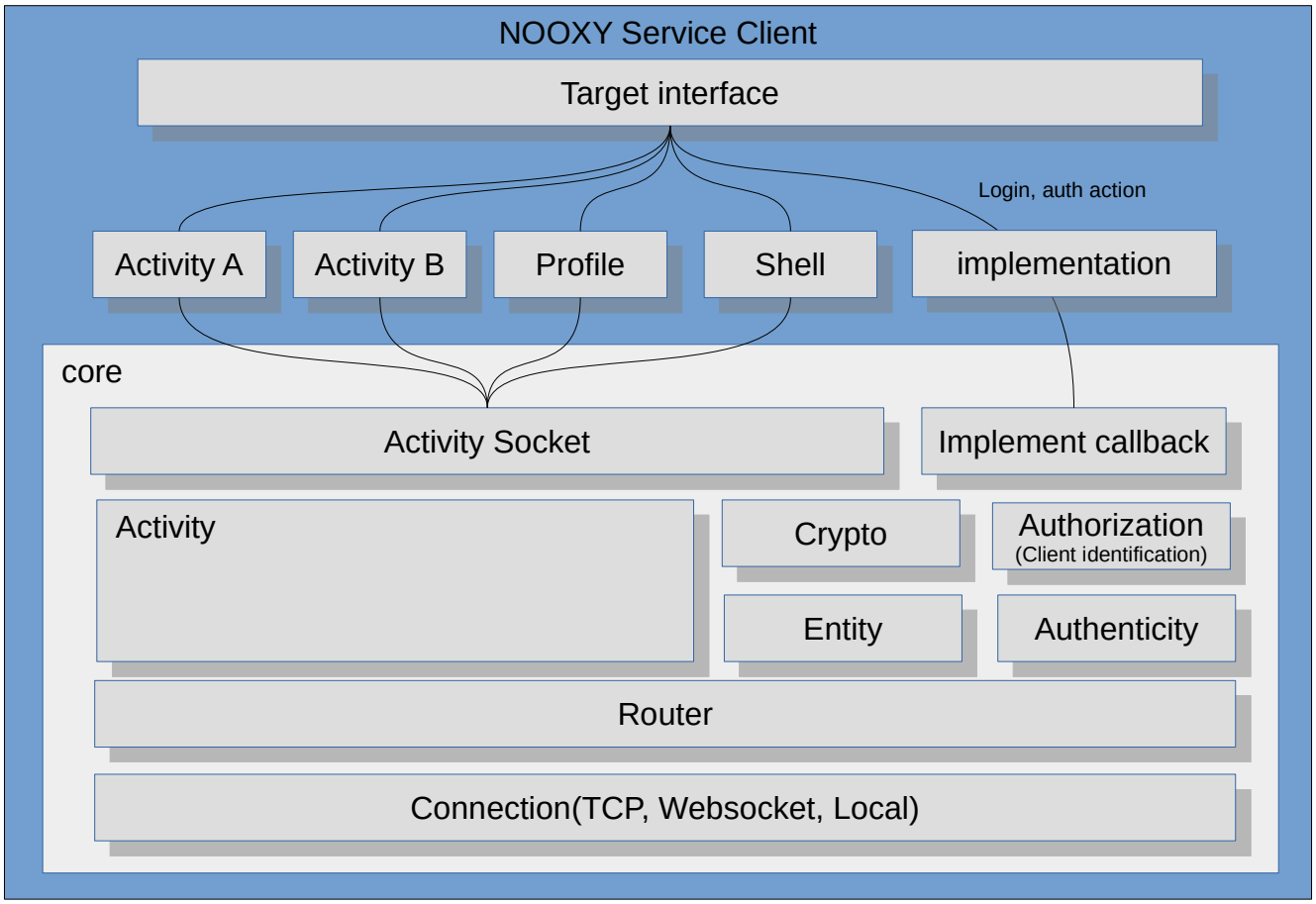
NOOXY Service Framework Orientation

1. Entities concept(Services, Activities), each entities have it’s profile to decide should it be trusted.
2. User Orientation, User can create entities
3. Server(we call it “Services”) , client(we call it “Activities”) structure
4. Authorization system
5. Module(base on service)
6. lightweight
7. “Everything based on service” structure

Architecture

NOOXY Service Framework Architecture



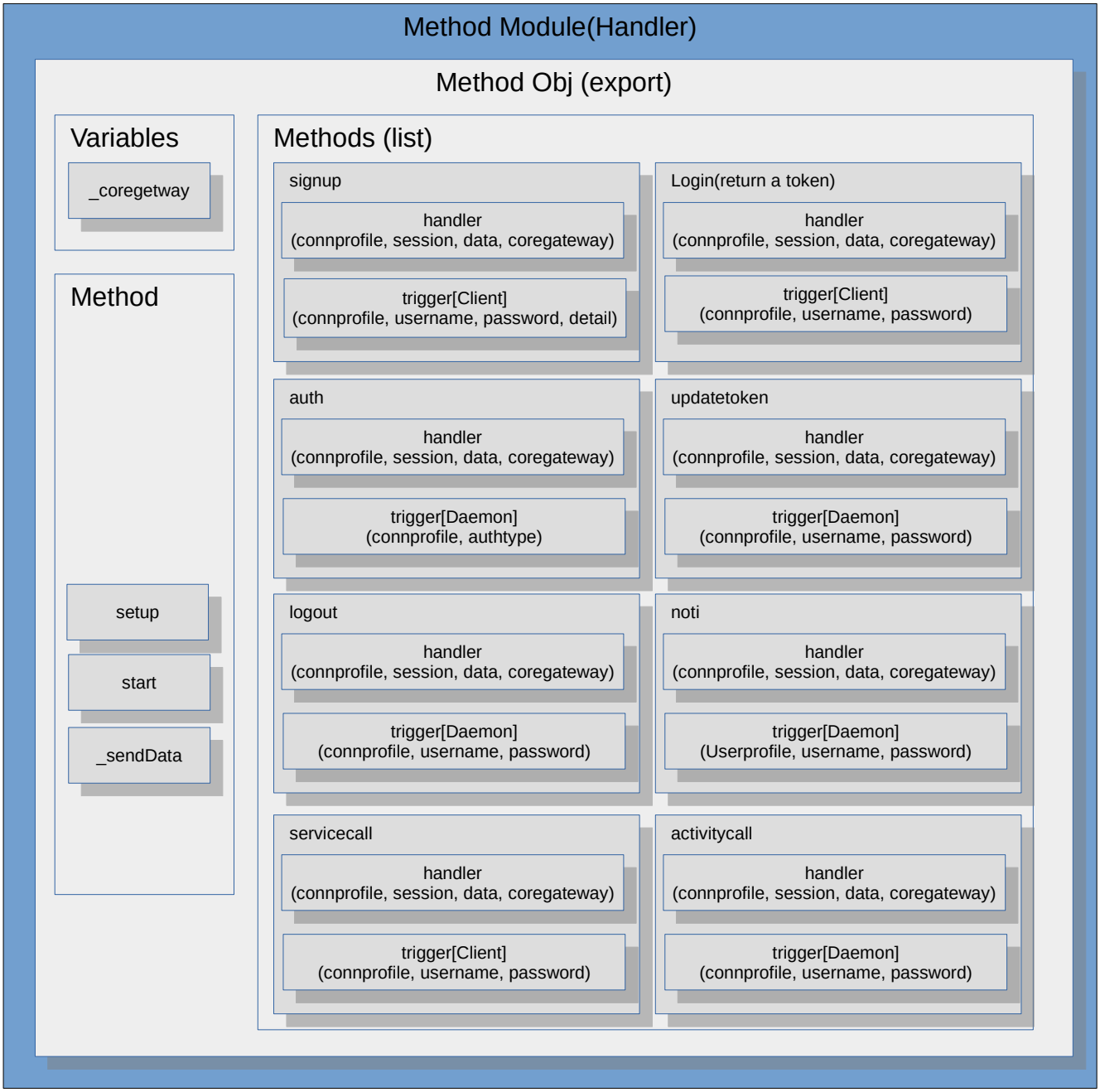


Serverside module

Router Module(Handler)

Objective: A parser or a router. To phrase json between connection And switch, and trigger between different operations.

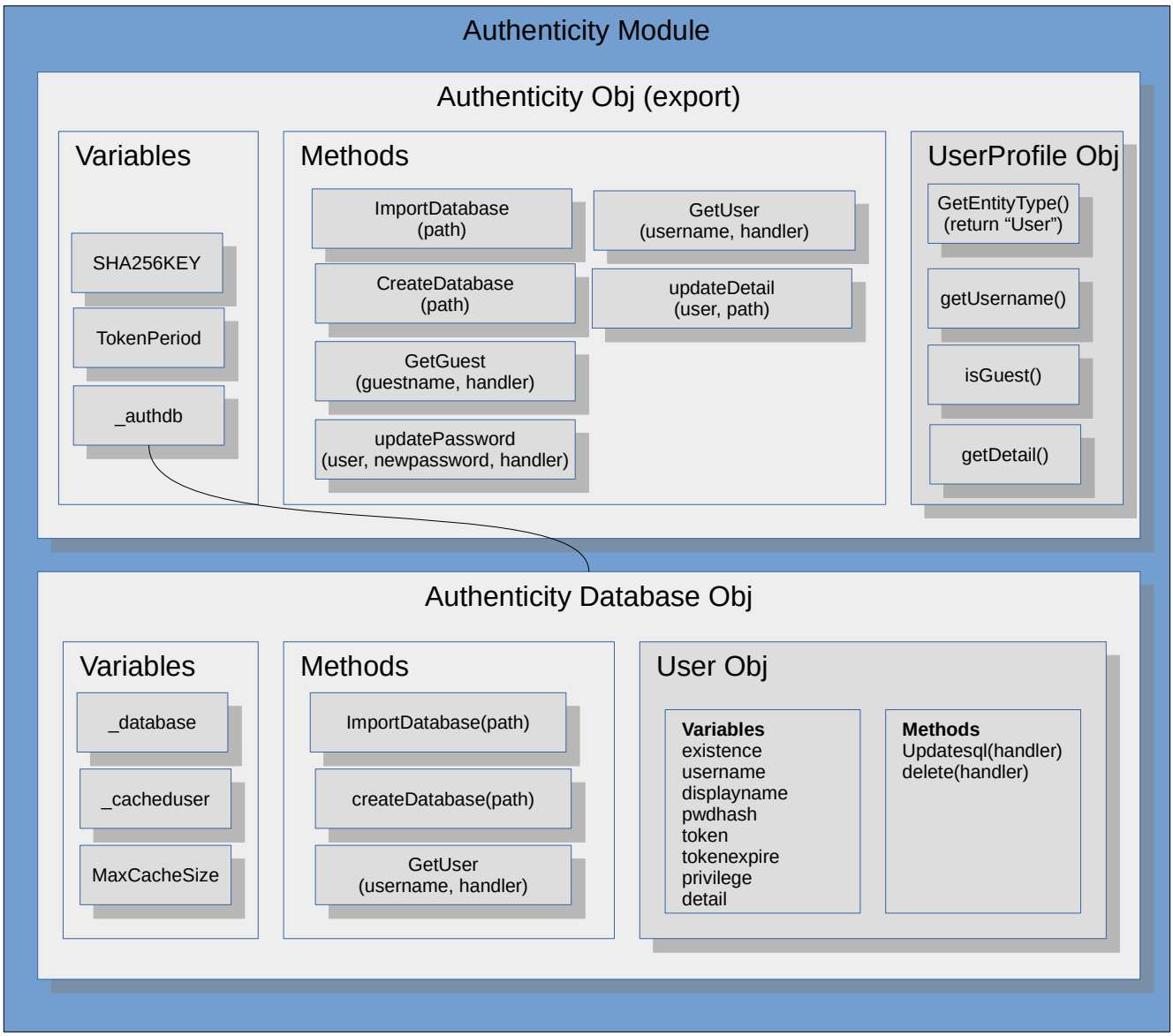
Figure:



Authenticity Module

Objective: To interact with database, Providing Users Obj caching, Creating User Obj, User identification.

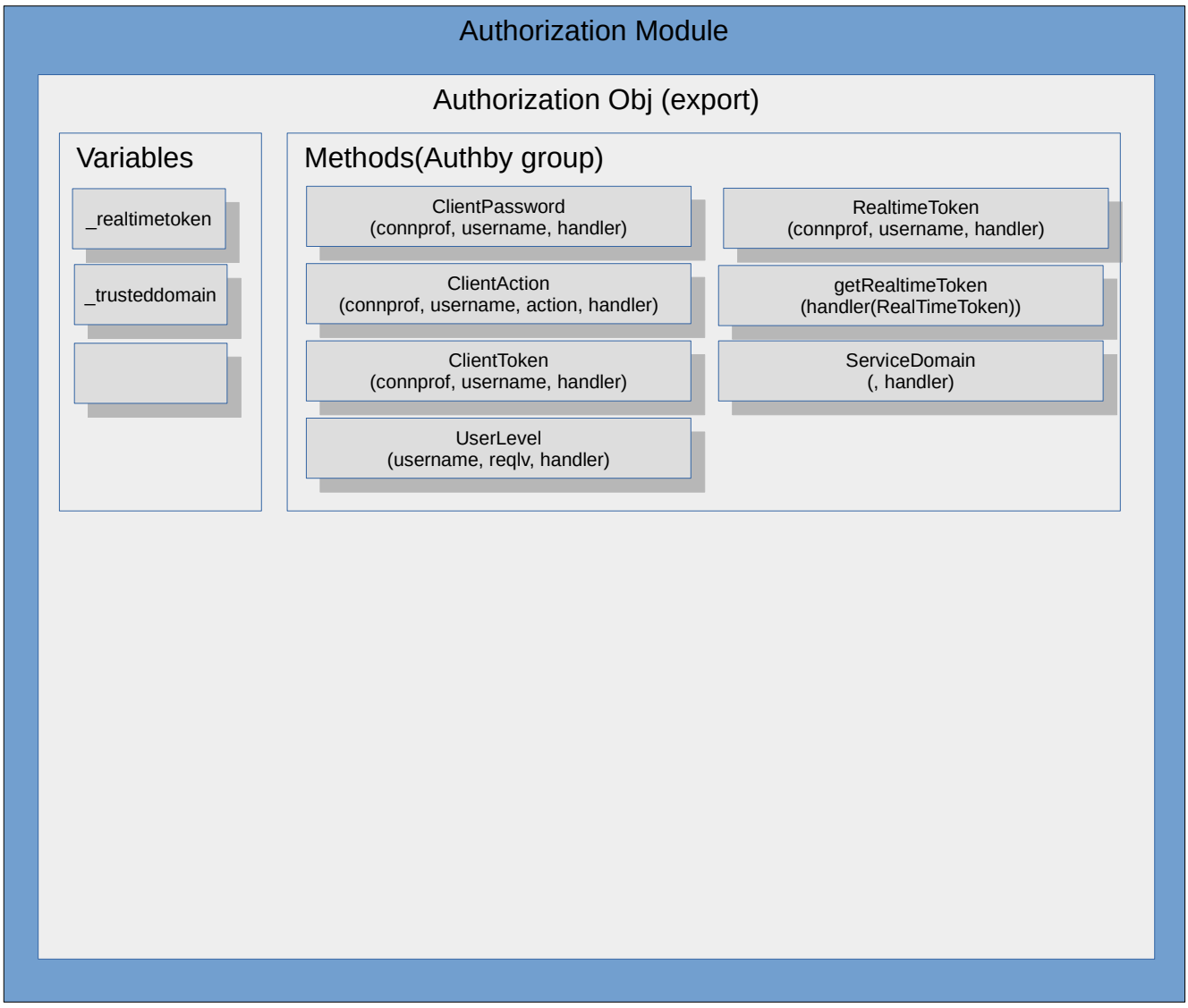
Figure:



Authorization Module

Objective: To provide function to take authoritative actions. Confirming the sensitive data or operation is permitted.

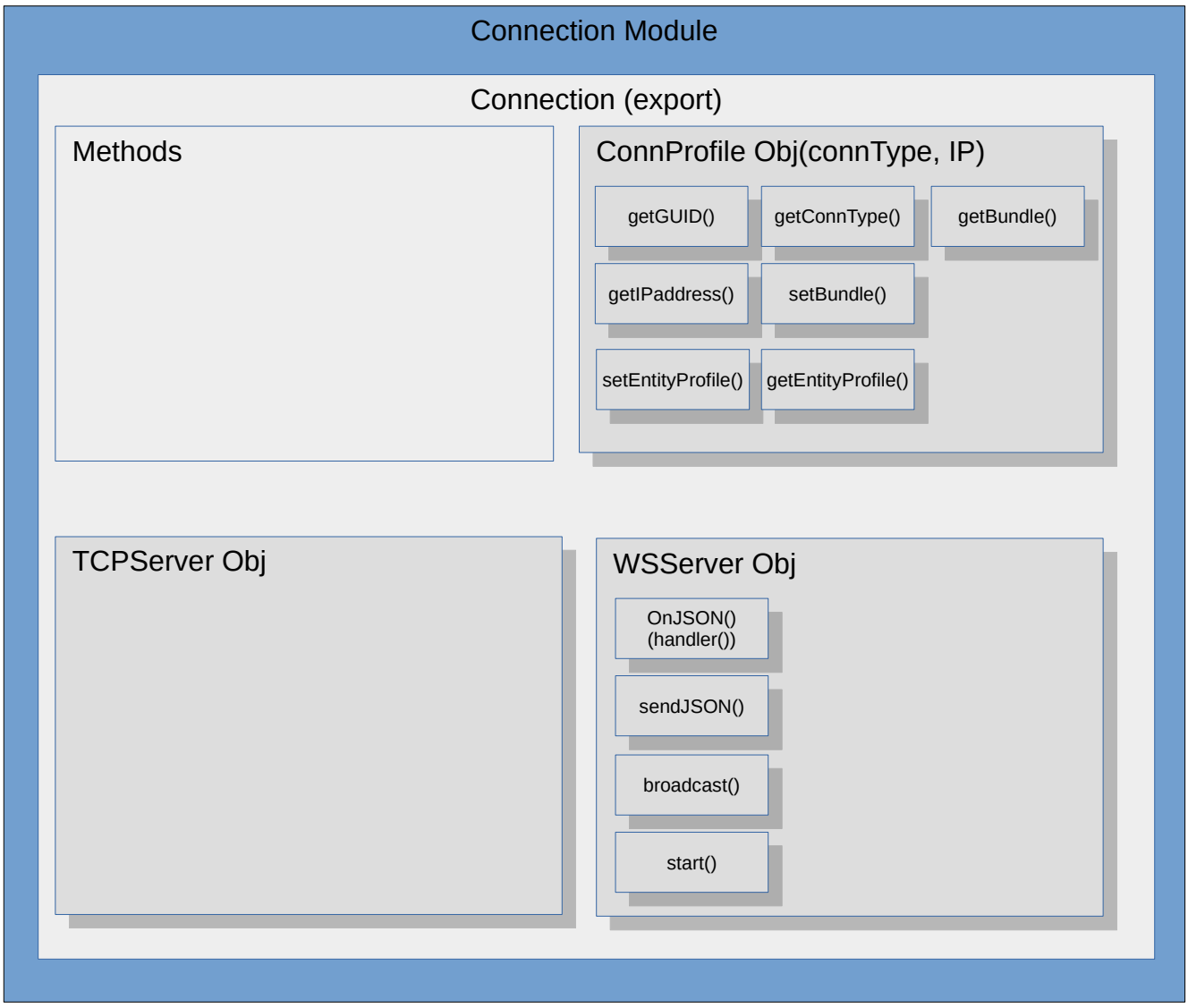
Figure:



Connection Module

Objective: Create a interface to get communication with remote device.

Figure:



Connection Module

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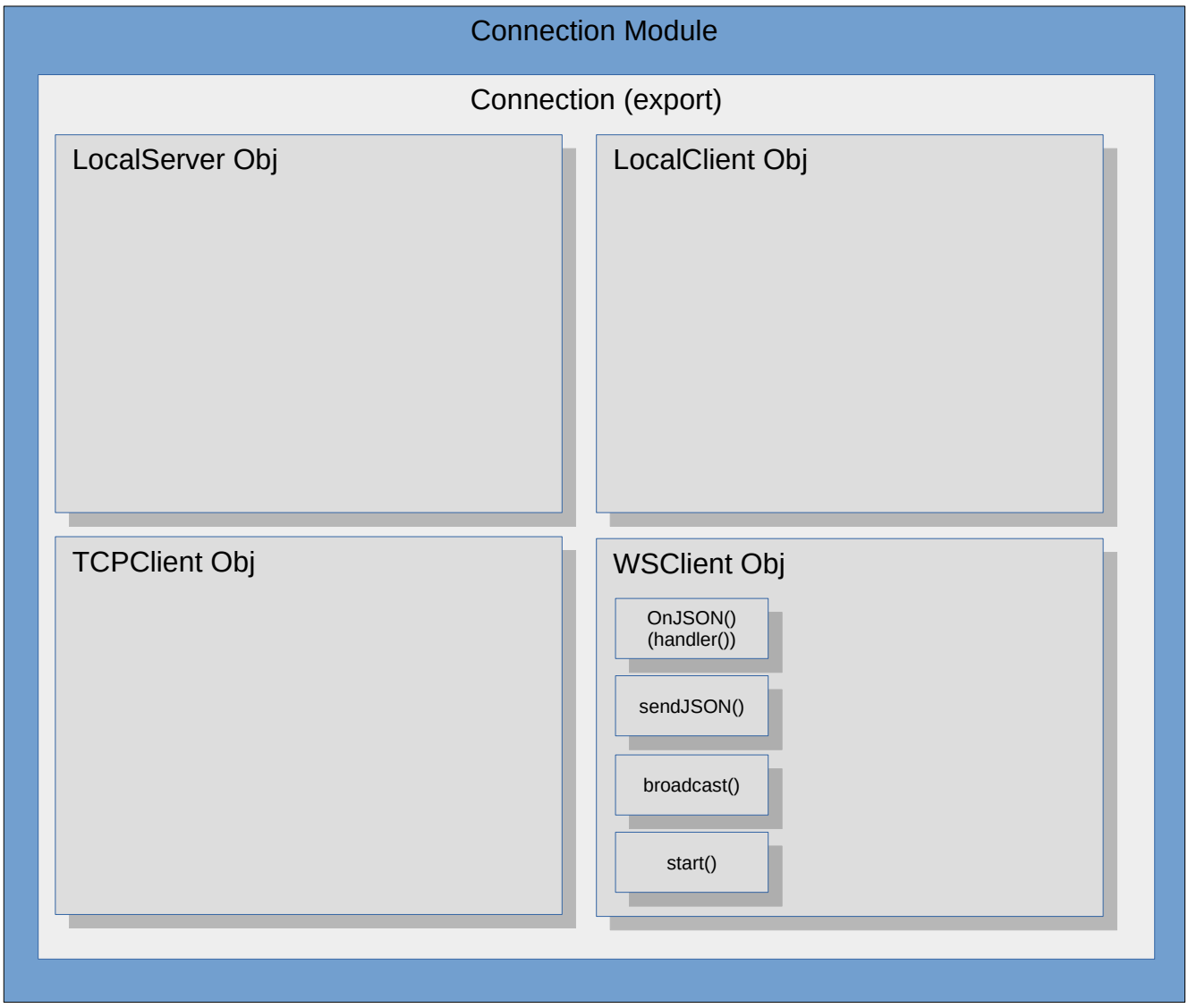
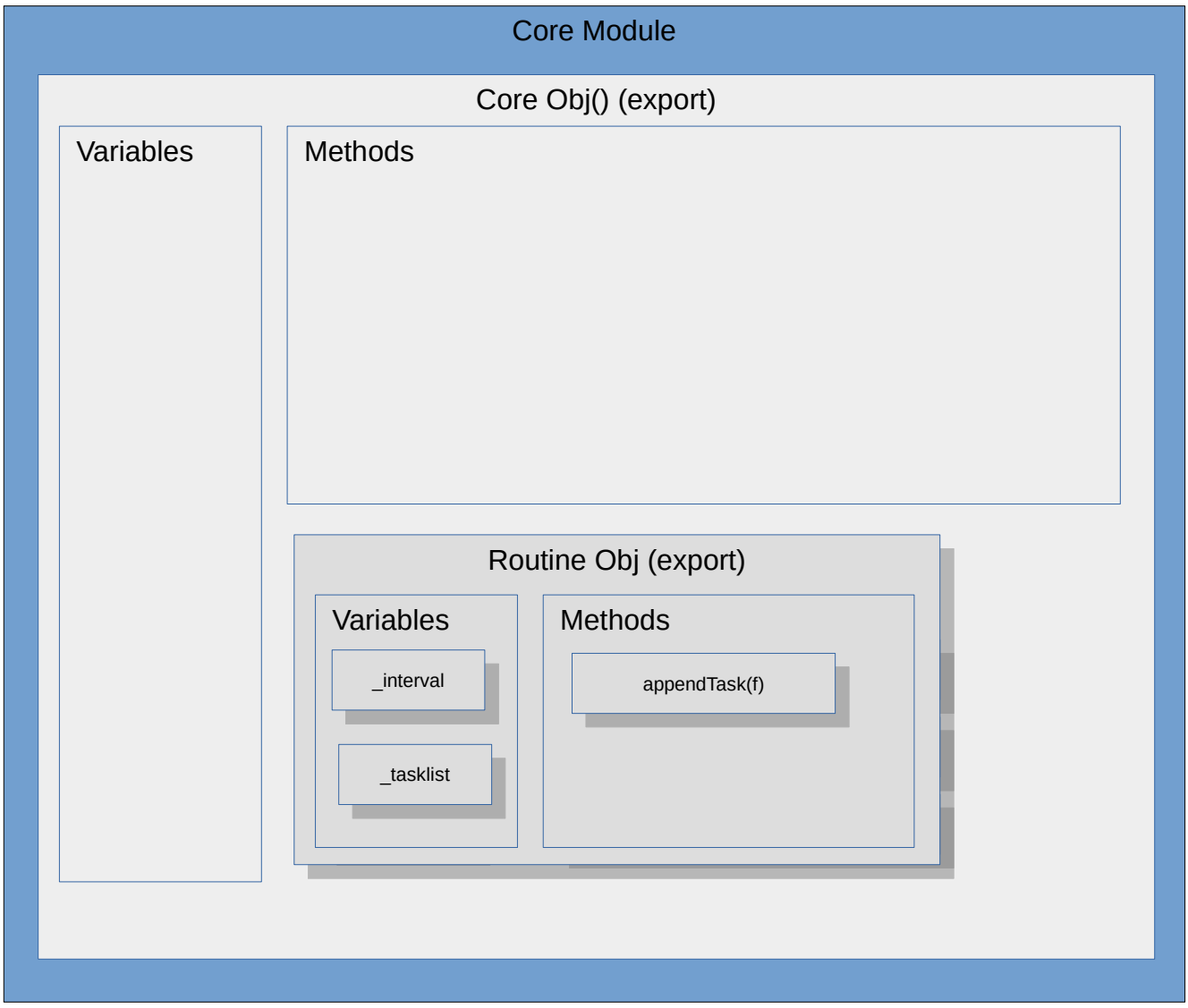


Core 1

Objective: provide functions for runtime use, glue

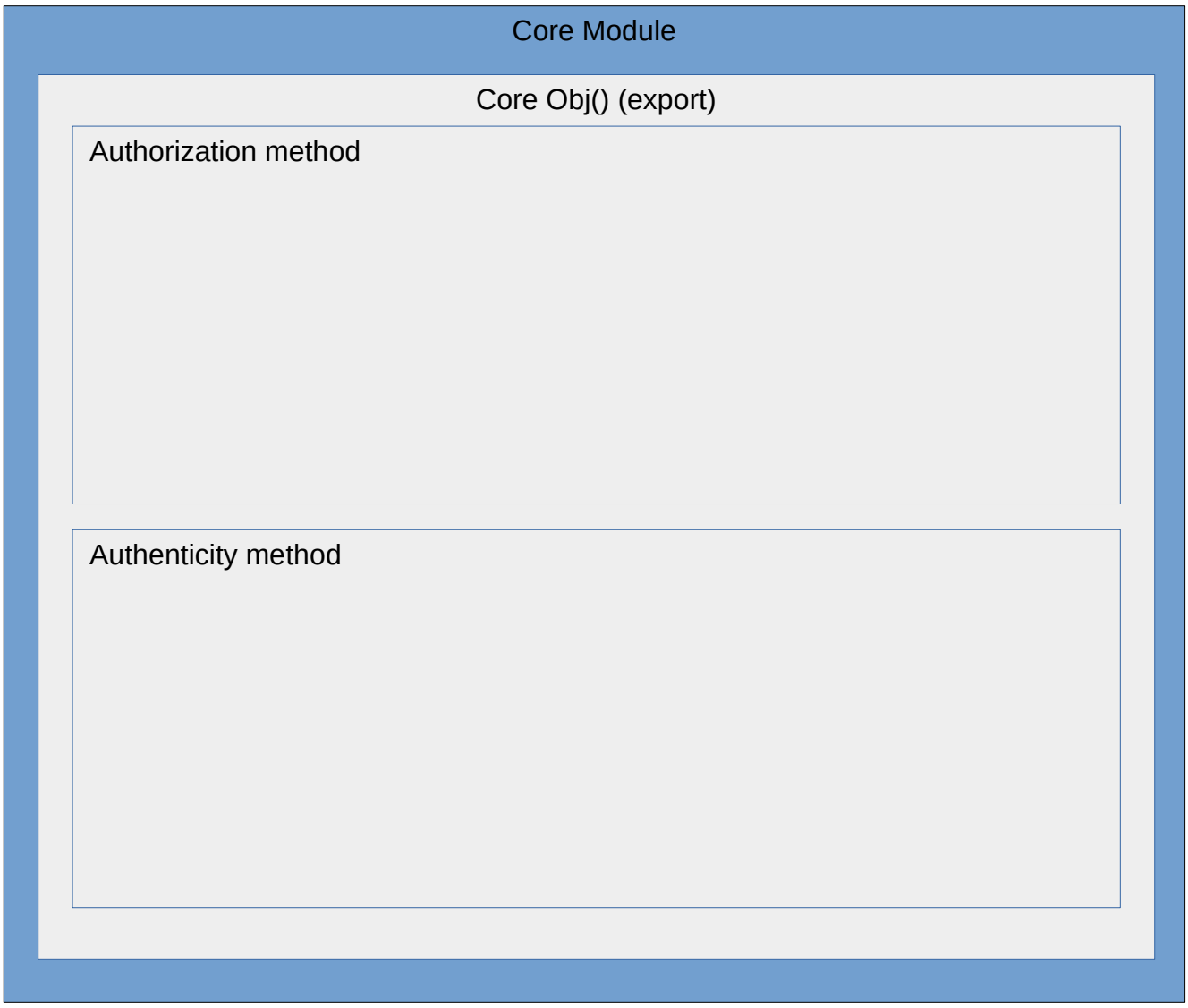
Figure:



Core 2

Objective: provide functions for runtime use, glue

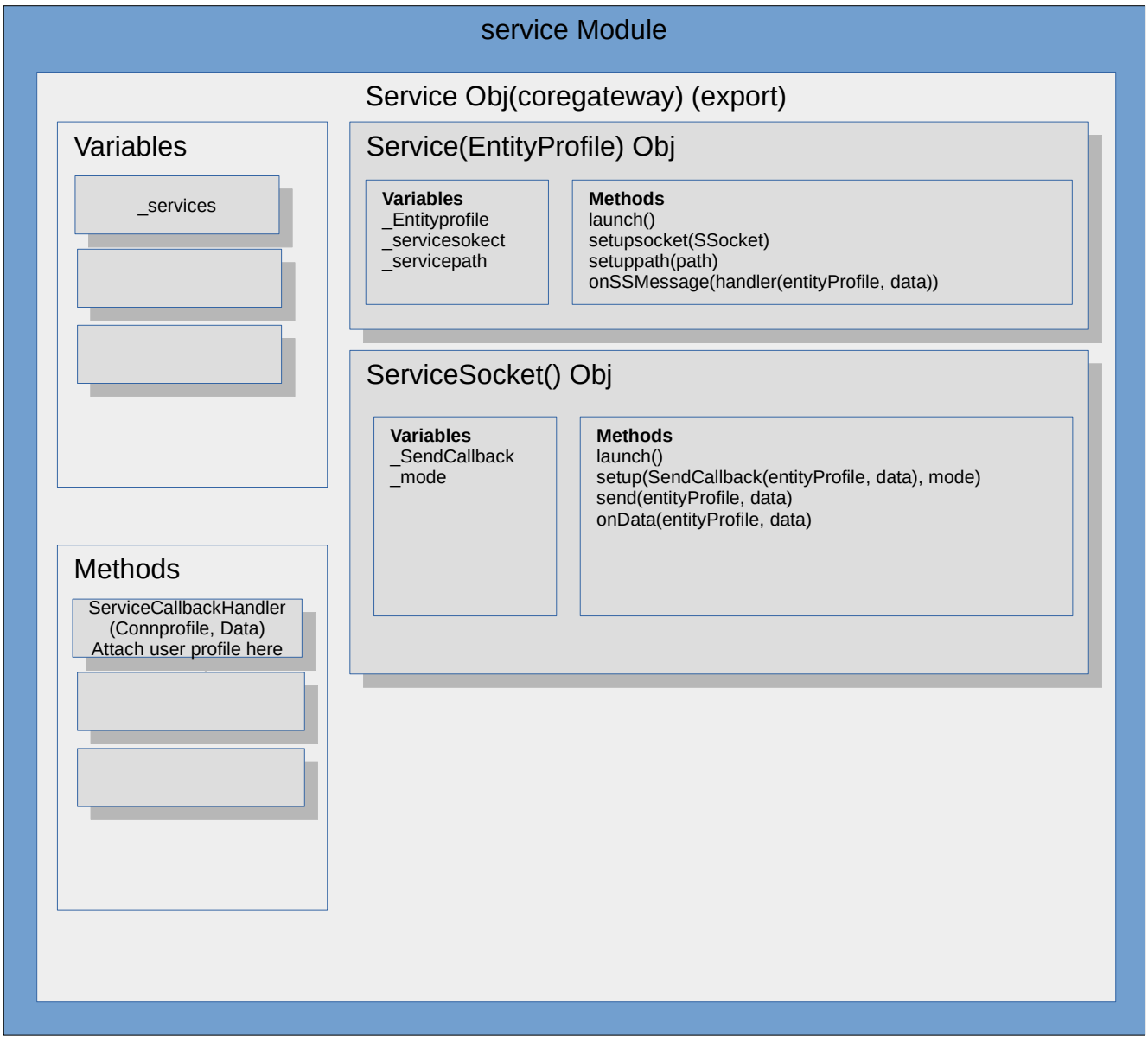
Figure:



Service Module 1

Objective: provide and mange service api, and route the messages on internet

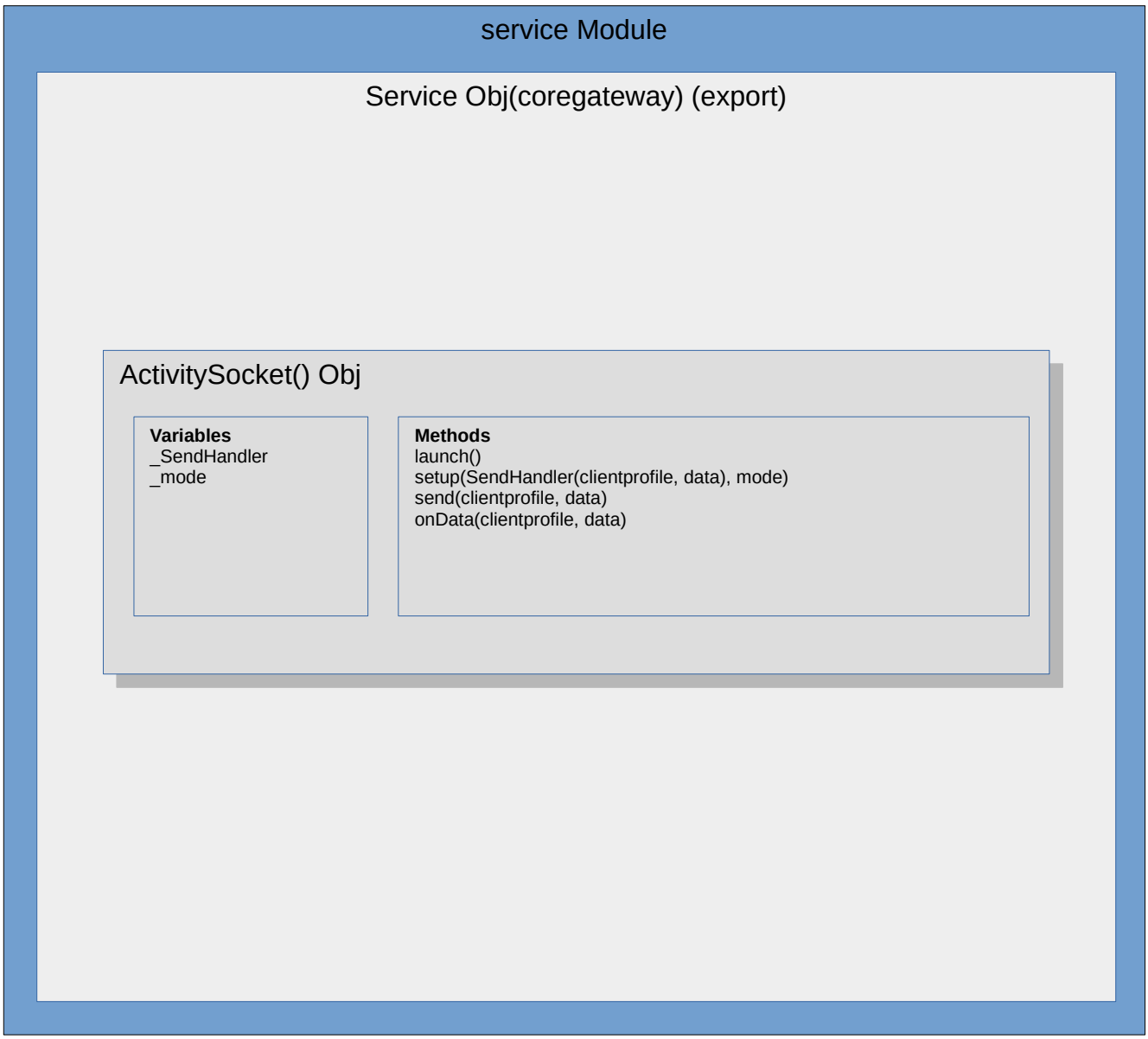
Figure:



Service Module 2

Objective: provide and mange service api, and route the messages on internet

Figure:



Clientside module

Service, Servicesocket and API

Explaination of how service work

Once the core of the NSF is started.
The core of NSF will navigate the directories of “services” directory which is under the root of NSF files. And in that directory it will exist a file called “entry.js”. The figure below can help you understand the concept.

```
------|--(NSd(NOOXY Service deamon))-- …
      |
      |--(services)--|--(services_A)--|--(entry.js)
      |               |                |--(manifest.json)
      |               |
      |               |--(services_B)--|--(entry.js)
      |                                |--(manifest.json)
      |
      |--(service_files)-- …
      |
      |--(launch.js)
```

After the core finish navigating the directories under “services”. It will call the entry.js and call it’s function “start()” and pass API parameter in to start() function. Below show how the “entry.js” file might be.

In entry.js

```
function start(api) {
      let ss = api.Service.ServiceSocket
      ss.onMessage = function(ConnProfile, Message) {
            // do somthing
      }

      ss.sendMessage(ConnProfile, “NSF is cool!”);
      // do something with api
}

function end() {

}

module.exports = {start: start, end: end}
```

Beware that code in Service is run as a NSFsuperuser,

Service API list

API.Service.killService(Servicename)
API.Service.disableService(Servicename)
API.Service.enableService(Servicename)
API.Service.startService(Serivcename)
API.Service.getListofService()
API.Service.getDetailofService(Servicename)
API.Service.ServiceSocket.onMessage(ClientProfile, message) [Callback]
API.Service.ServiceSocket.sendMessage(ClientProfile, message)
API.Service.ServiceSocket.onBytes() [not yet]
API.Service.ServiceSocket.sendBytes() [not yet]
API.Service.ActivitySocket.createSocket(Profile(of an entity), TargetServicename)[return a ActivitySocket]
API.Authorization.Authby.ClientPassword(UserProfile)
API.Authorization.Authby.ClientAction
API.Authorization.Authby.ClientToken
API.Authenticity.renewToken(UserProfile)[will logout clients]
API.Deamon.shutdown
API.Deamon.restart
API.Deamon.addRoutine(function)
API.Notification.sentnoti(ClientProfile, message, iconurl)
API.Notification.broadcast(message, iconurl)

NSP(NOOXY Service Protocol)

NOOXY

Basic Concept of NSP

1. NSP is based on text, based on Json data structure.
2. It’s communication style is like http.Existing a method, a request and a response.
3. NSP method is designed to be handle by core, not recommend to let service have direct access.
4. Once a NSP package was sent. It contains 3 main parts.
    1. “method” for identify the type of operation
    2. “session” for identify the stage of request or response.
    3. “data” for the actual data that be transferred.
5. There are following standard methods for NSP.
    1.
6. In order to focus on data that be transferred We will abridge some terms.
    1. “method” to “m”
    2. “session” to “s”
    3. “data” to “d”
    4. method terms will be explained next page

Methods of NSP

1. Login
2. signup
3. auth
4.

JSON Structure of NSP

```
“LOGIN”
username=text, password=text, token=text
Request(client):
{
	m: “LG”,
	s: “rq”,
	d: {u: username, p: password}
}
Response(daemon):
{
	m: “LG”,
	s: “rs”,
	d: {t: token}
}


“SIGNUP”
username=text, password=text, success=boolean
Request(client):
{
	m: “SU”,
	s: “rq”,
	d: {u: username, p:password}
}
Response(daemon):
{
	m: “SU”,
	s: “rs”,
	d: {s: success}
}

“Auth”
auth_data_structure=dictionary
Request(daemon):
{
	m: “AU”,
	s: “rq”,
	d: {auth_data_structure}
}
Response(client):
{
	m: “AU”,
	s: “rs”,
	d: {auth_data_structure}
}
```

JSON Structure of NSP

```
“Auth”: Verify messages
Messages = text, accept = boolean
Request(daemon):
{
	m: “AU”,
	s: “rq”,
	d: {
		m: “VM”,
		d: {m: messages}
	}
}
Response(client):
{
	m: “AU”,
	s: “rs”,
	d: {
		m: “VM”,
		d: {a: accept}
	}
}

“Auth”: Verify Password
Username = text, password = text
Request(daemon):
{
	m: “AU”,
	s: “rq”,
	d: {
		m: “PW”
	}
}
Response(client):
{
	m: “AU”,
	s: “rs”,
	d: {
		m: “PW”,
		d: {u: username, p: password}
	}
}

“Auth”: Verify Token
Username = text, token = text
Request(daemon):
{
	m: “AU”,
	s: “rq”,
	d: {
		t: “TK”
	}
}
Response(client):
{
	m: “AU”,
	s: “rs”,
	d: {
		m: “TK”, d: {u: username, p: password}
	}
}
```

JSON Structure of NSP

```
“SERVICECALL”
service_data_structure = dictionary
Request(client):
{
	m: “SC”,
	s: “rq”,
	d: {service_data_structure}
}
Response(daemon):
{
	m: “SC”,
	s: “rs”,
	d: {service_data_structure}
}

“SERVICECALL”: bind user
Request(client):
{
	m: “SC”,
	s: “rq”,
	d: {
		m: “BU”,
		d: {u: username}
	}
}
Response(daemon):
{
	m: “SC”,
	s: “rs”,
	d: {}
}

“SERVICECALL”: callservicesocket
data = anytype
Request(client):
{
	m: “SC”,
	s: “rq”,
	d: {
		m: “SS”,
		d: data
	}
}
Response(daemon):
{
	m: “SC”,
	s: “rs”,
	d: {
		m: “SS”,
		d: {}
	}
}
```

JSON Structure of NSP

```
“ACTIVITYCALL”
service_data_structure = dictionary
Request(daemon):
{
	m: “AC”,
	s: “rq”,
	d: {service_data_structure}
}
Response(client):
{
	m: “AC”,
	s: “rs”,
	d: {service_data_structure}
}


“ACTIVITYCALL”: callactivitysocket
data = anytype
Request(daemon):
{
	m: “AC”,
	s: “rq”,
	d: {
		m: “AS”,
		d: data
	}
}
Response(client):
{
	m: “AC”,
	s: “rs”,
	d: {
		m: “SS”,
		d: {}
	}
}
```

Preinstalled Service