

User documentation

CIMA

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Written by
Frédéric DA SILVA

Reread by:
Lionel MEDINI

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User documentation

The main components of CIMA are the **NSCL** (Network Service Capabilities Layer) layer, the layer **GSCL** (Gateway Service Capabilities Layer), **CIMA web interface** and **robot code** that enables the connected device by internet protocol to expose its capabilities.

OM2M layer

CIMA is based on OM2M framework, which has a set of Java and OSGi services easily extensible and customizable. These services are exposed by a RESTful API, providing the primary procedures for machines authentication, resources discovery, applications registration, synchronous and asynchronous communication, access rights permission etc …

GSCL layer

The GSCL layer handles device detection and management and expose their capacity in a RESTful way in /infos. Those capacities will be shared with the NSCL layer.

- **Http**: implementation of the http protocol in the gscl layer, in order to make requests
- **Commons** : It includes all utilities to convert the format (JSONLD, XML, OBIX ...) of the data exchanged (capacities, devices …)
- **DeviceService** : contains many interfaces which provides all the functions or methods to manage a device based on its ID, address to manage a capacity. Its also provides discovery devices methods.
- **PortForwarding** : This module implements the portforwarding, to manage the applications and allocations of port devices.
- **Core** : specify a controller to perform requests on devices (Execute, Retrieve, Update Delete, Create, Generate a resource on devices)
- **MgmtDevice** : use **DeviceService** to manage device
- **Discovery**: use **DeviceService** to perform discovery
- **ManualConfig** : To manually configure devices
- **HidDiscovery** : NOT USED

NSCL layer

Once capabilities are exchanged with the NSCL, its role is to make these devices and capabilities a available via the network to the web interface of CIMA. It also manages profiles, users, devices, capabilities, their persistence in mongo database, their availability and their accessibility via the network

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- **Commons** : It includes all utilities to convert the format (JSONLD, XML, OBIX ...) of the data exchanged (capacities, devices …)

- **DeviceService** : contains many interfaces which provides all the functions or methods to manage a device based on its ID, address, subscribers, to manage a capacity. Its also provides an infrastructure controller to control access to the network and the database, but also to manage requests responses.

- **MongoDAO** : This module manage the data persistence.

- **Users** : User who want to log into CIMA web interface.

- **Profiles** : The devices profiles.

- **Administration** : The administration Server manages users, profiles. It also defines the behavior of the server and responses to queries GET, POST, DELETE using a well-defined protocol.

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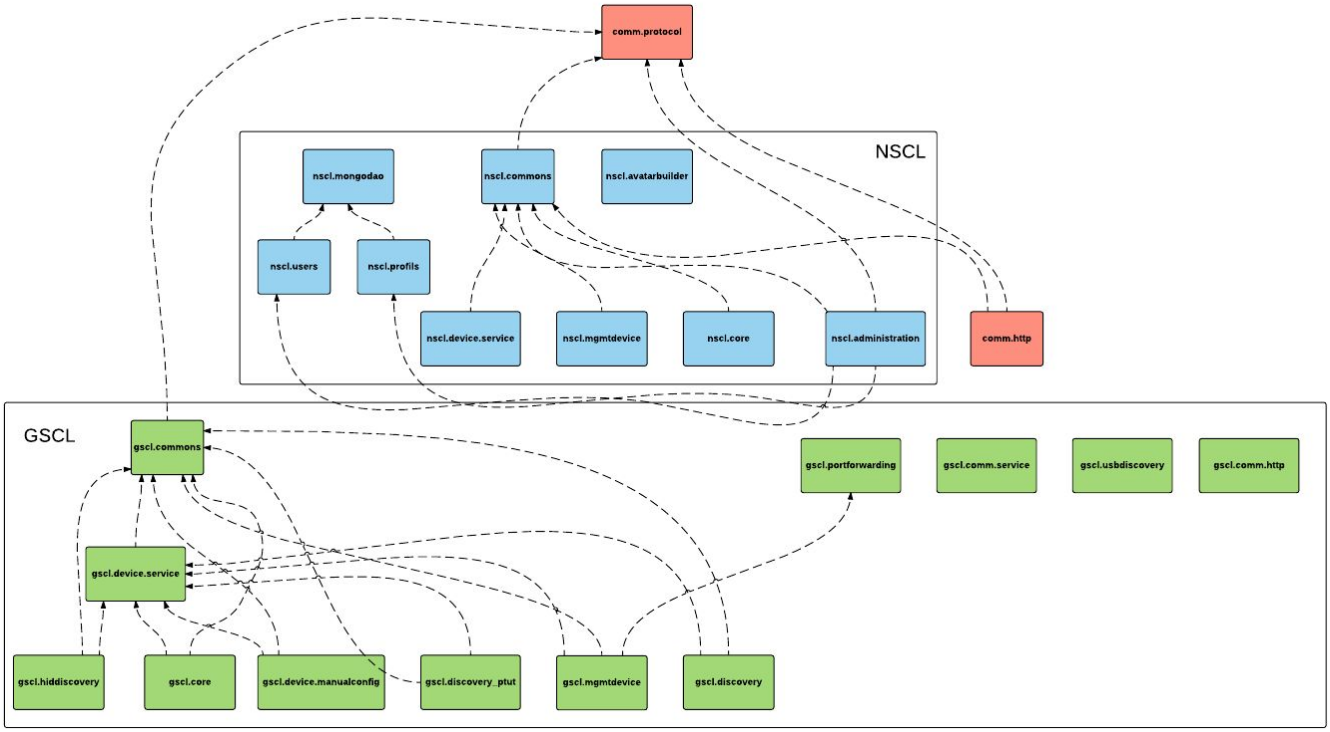
comm.protocol
NSCL
nscl.mongodao
nscl.commons
nscl.avatarbuilder
nscl.users
nscl.profils
nscl.device.service
nscl.mgmtdevice
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nscl.administration
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GSCL
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gscl.usbdiscovery
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gscl.core
gscl.device.manualconfig
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