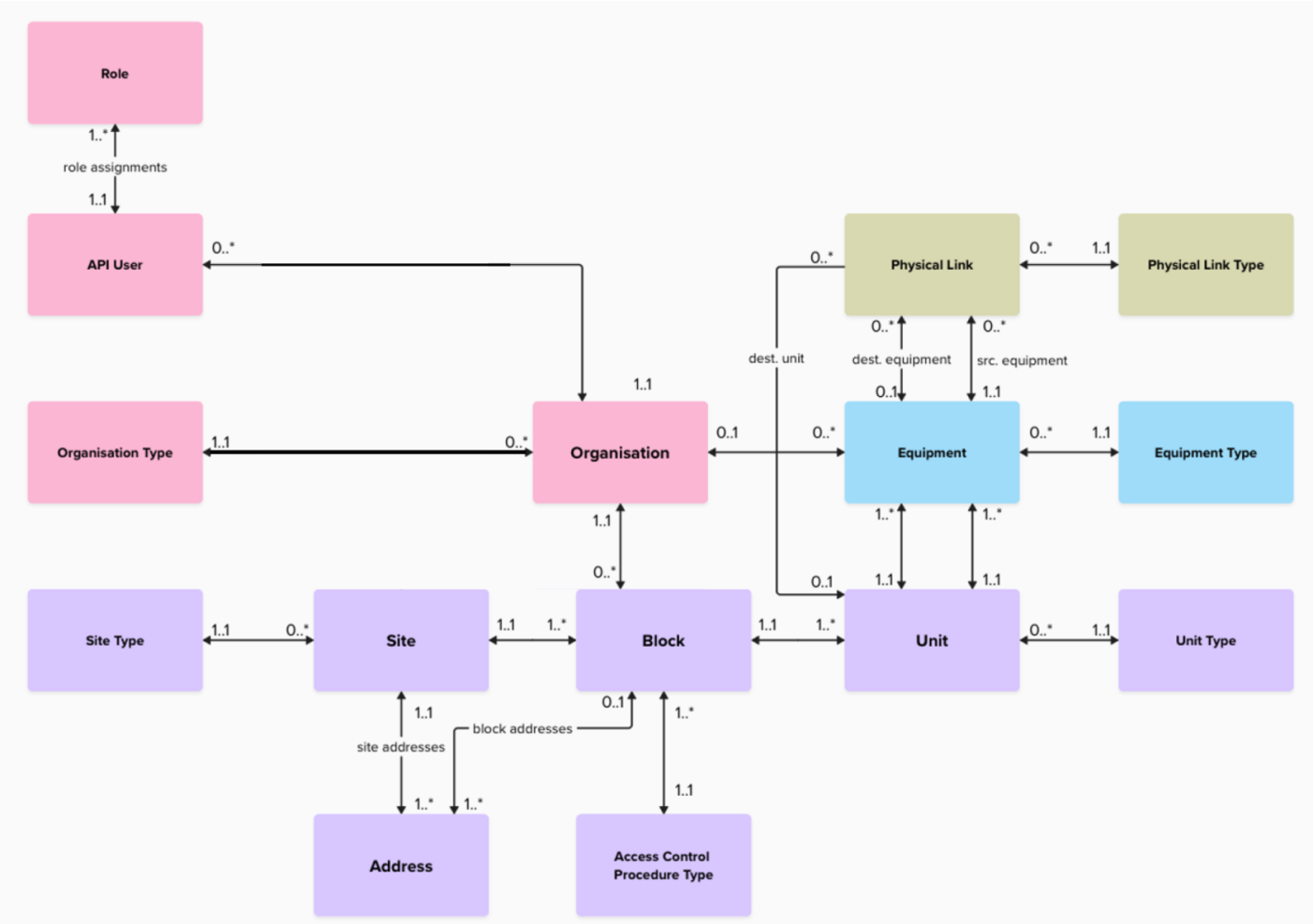
8. Data architecture

In this section we will present the data architecture chosen for the Vertical Cabling data. The introduction will be kept very high-level and the detailed fields of each entity will be presented in the Data Structure section below.

Our main objectives and guidelines are:

- be able to model the most complex use cases of vertical cabling infrastructures in multi-dwelling units
- keep the smallest possible set of data to perform that task.
- not store any privacy relevant data (e.g. personal data) (if possible)
- limit the number of unstructured text fields to a minimum
- keep a history of the evolution of the vertical cabling situation

8.1. Vertical Cabling Data Architecture



The background colors of the above image are to be interpreted as:

- **purple**: the core application a.k.a. backend that will be built in the context of this project
- **green**: supporting systems that will be used in the context of this project
- **blue**: trusted parties
- **red**: external users of the system

Definitions

In the diagram you will find two things:

- boxes: that represent entities in the database. The entities will have the same name as the boxes but in snake case
- edges that link two boxes: the named edges represent junction tables

You will find below a description of each entity that is part of the data architecture:

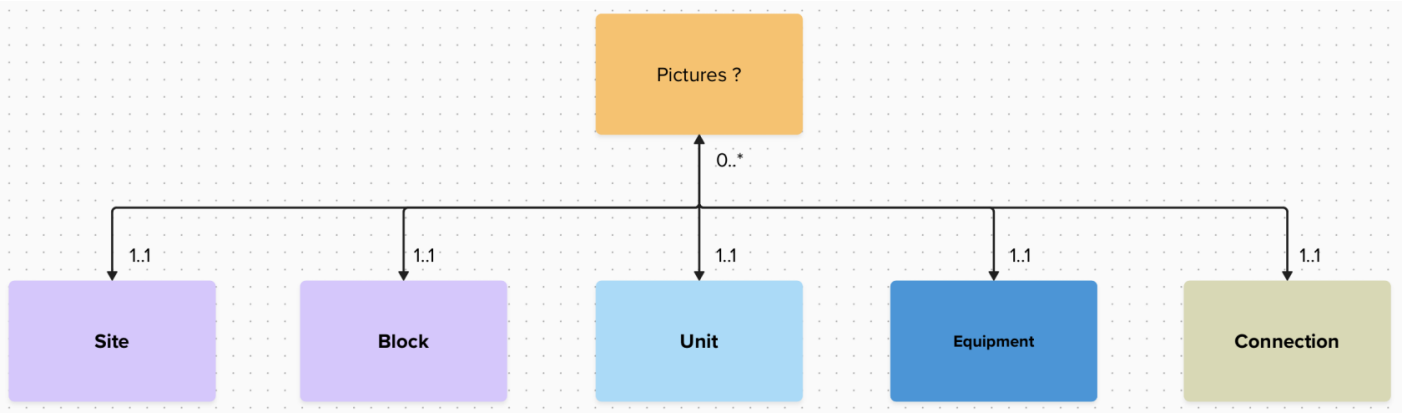
Entity	Description
Address	An address that is available in the system. Addresses have two possible sources: • Ingested via the ETL process, that consolidates address from various sources. These addresses are marked as consolidated and are considered as valid addresses. • Ingested by a user with the role Editor, In this case the address is considered as a temporary address that needs to be consolidated by the ETL process. If an address is not consolidated after a given period of time a manual validation process is triggered.
Site Type	A site type denotes the specificity of the site with respect to the type of habitation: • Single family home • Residential building • Office building • Mixed building • ...
Unit Type	A unit type describes the purpose of the unit: • Residential • Garage • Common room • Technical room • Office • ...
Access Control Procedure Type	The access control procedure type, indicates how the access to the building is provided: • calling the building manager • digi-code (not the code itself, only the fact that a code is needed) • open access • ...

Entity	Description
Site	A Site is building or group of blocks. Depending on the size and complexity of the Site, it can have multiple addresses attached to it.
Block	A Block is a part or entirety of a Site to which multiple units can be attached to.
Unit	A Unit, is either an apartment / office / or any other subdivision of a Block (e.g. technical room, elevator, parking, common room).
Equipment	An equipment can be a specific NTP, a floor distributor, a wall socket, a cabinet, or any other equipment on which a physical link can be terminated.
Equipment Type	An equipment type (NTP, floor distributor, wall socket, cabinet, ...) is specific type of equipment that can be installed at the customer premises and on which a physical link can be terminated.
Physical Link	A physical link represents the physical link in between two equipments or an equipment and a unit. The physical link only indicates the presence or absence of a given Link Type, it does not indicate the quantity of cables connecting both units.
Physical Link Type	The Physical Link Type can be any type of physical link that can be used to connect two equipments together to deliver telecommunication services
Organisation Type	A type of Organisation: • Operator • Building Manager • ... The type of Organisation determines how an organisation can be used in the system, e.g. if it can be a data producer, if it can be used as site contact, if it can be used as equipment owner, ...
Organisation	An Organisation, represents a legal entity. This organisation can be: • an organisation that has access to the system (operators, MyConnectivity, ...) • an equipment owner • a building manager (Syndic) that can be assigned as contact of a site
Role	The different roles as defined in this document • Application Administrator • Organisation Administrator • Editor • ...
API User	A user of the system

Below you will also find the description of the junction tables:

Entity	Description
role assignments	A junction table that will keep track of the roles assigned to each user
site addresses	A junction table that will contain the link between the sites and their addresses
block addresses	A junction table that will contain the link between the blocks and their addresses

8.2. Pictures



On top of the above vertical cabling data, pictures can also be attached to the sites / blocks / ...

8.3. Data Structure and data dictionary

You will find below an excel file that defines and justifies each field stored in the RNCV:

20251021_rncv_data_model.xlsx

Revision #12
Created 16 October 2025 17:40:01 by Sergio Sousa
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