

Key Decision and Data Field Discussion

Collaborative Utility Solutions

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Key Decision – What is the goal of the DER Registry?

Is the DER Registry being created to facilitate the administrative process of:

- 1. What is it?**
- 2. Where is it?**
- 3. What can it do?**
- 4. Who owns it?**
- 5. Who is aggregating and what are they aggregating?**

To serve existing systems in industry.

OR

Is it being created to compete against existing operational, settlement, etc. systems in industry?

Examples

- Feeder Voltage
- Feeder Impedance

These are distribution utility parameters used only by the distribution utility to study DERs, no reason to be in a DER Registry defining DER assets to be studied.

- Performance over time
- Autotracking ability
- Obstructions

These are operational parameters utilized for performance or management/settlement of a DER or DER aggregation.

Administrative Baseline

- The necessary data to appropriately identify a DER and aggregations of DERs to allow them to be appropriately identified, studied, aggregated and bid/presented to Utility DER programs and/or RTO/ISO market products.
- In addition, data security and customer privacy must be maintained by defining role-based security for the data elements contained in the DER Registry.
- These two points will be dynamic and change over time and by utility/region/market construct.

Multi-player Environment

- DER Registry must recognize a ‘multi-player’ environment
- Prior work identifying all potential players has been completed
- Data needs are dynamic based on market structure
 - Vertically integrated – No RTO/ISO
 - Vertically integrated – With RTO/ISO
 - Competitive Choice
 - Etc.
- However, the fundamental Base DER data needs do not change and their physical location defines their market structure type through simple GIS analysis.

What is the goal?

- Prior to defining data fields, the goal of the DER Registry must be clearly defined as the first step to determine what data fields should be required to meet that goal.

Understanding Data Requirements

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Data Requirements: More than a List!

Data Requirements include:

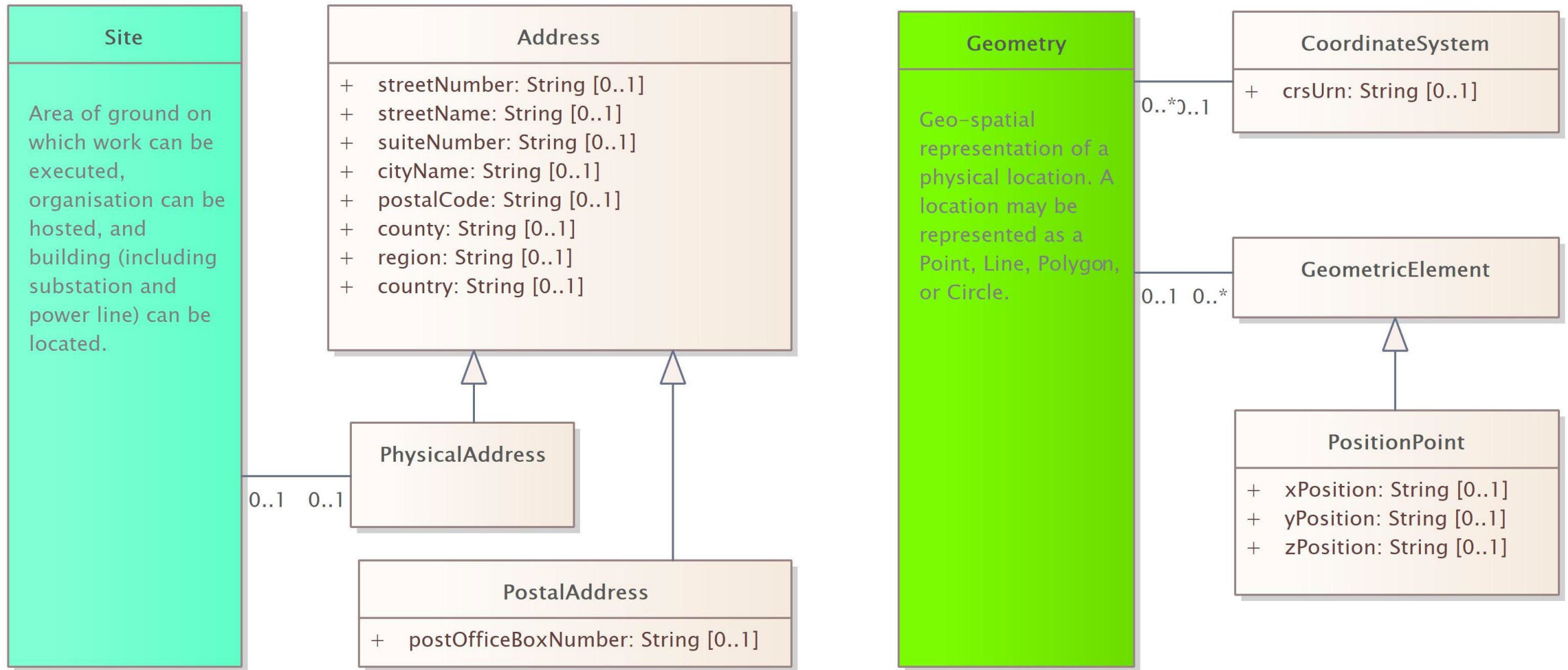
1. List data elements
2. Collect data “elements” into data “objects”
3. Establish clear human-readable definitions
4. Establish data formats and units of measure
5. Define cardinality (relationships among objects)
6. Establish what is mandatory versus optional
7. Build data exchange definitions/profiles
8. Test with solution providers to establish compliance
9. Test with utilities to establish compliance
10. Finalize transport/security/quality protocols

Steps To Data Interoperability	NAESB DER Registry Requirements	EPRI DER Systems of Records	CIM
1) Identify data elements [in this case DER Registry]	50%	200%	95%
2) Collect data “elements” into data “objects”	25%	75%	100%
3) Establish clear human-readable definitions	—	25%	90%
4) Establish data formats and units of measure	—	50%	100%
5) Define cardinality (relationships among objects)	—	50%	100%
6) Establish what is mandatory versus optional	—	—	75%
7) Build data exchange definitions/profiles	—	—	25%
8) Test with solution providers to establish compliance	—	—	50%
9) Test with utilities to establish compliance	—	—	10%
10) Finalize transport/security/quality protocols	—	—	—

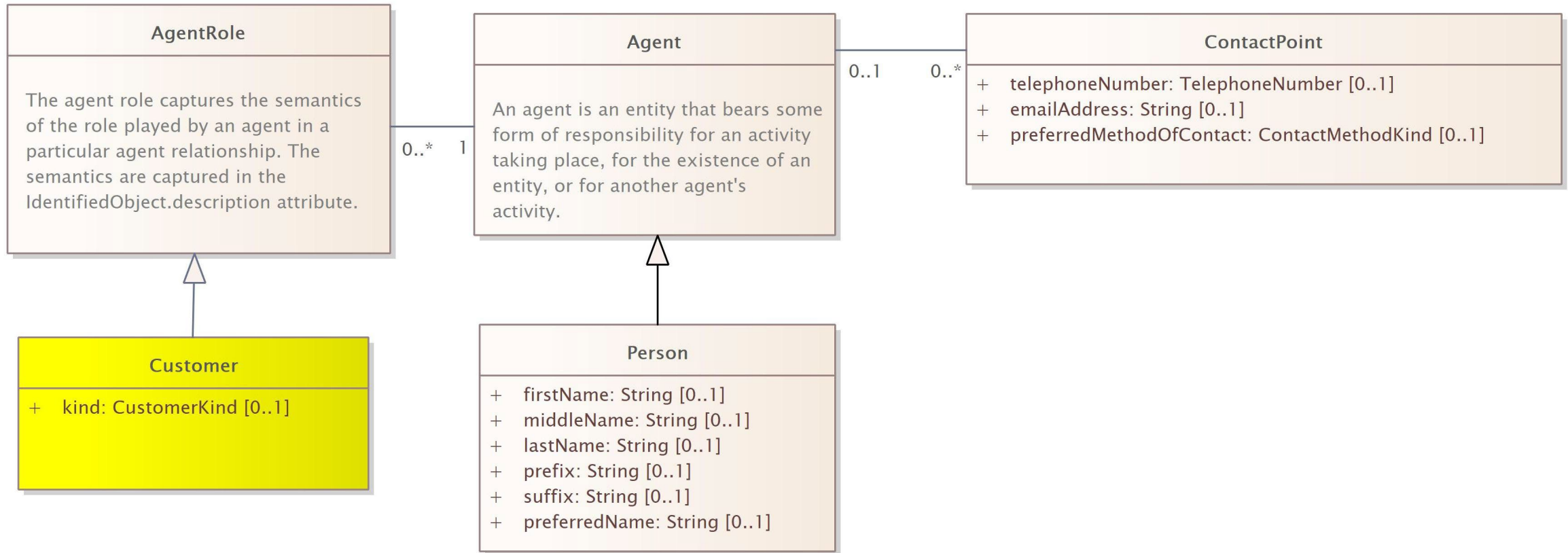
Example of Mature Data Model: CIM

- What is a Usage Point?
- How does it relate to a Customer?
- How does it relate to a Address?
- How does it relate to a Geospatial Location?
- How does it relate to a Meter?
- How does it relate to an Account?

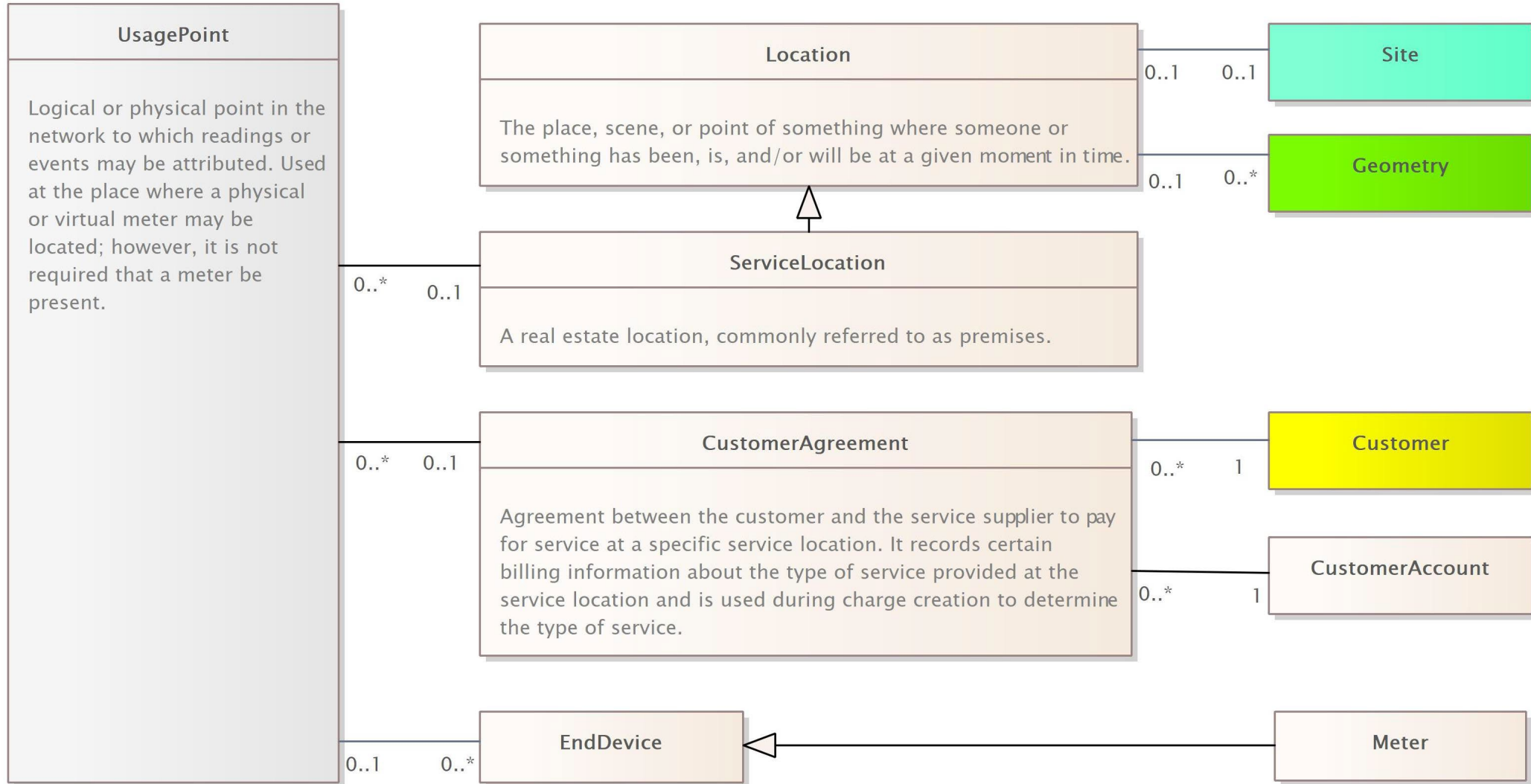
CIM: Site & Geometry



CIM: Customer



CIM: Usage Point



CIM: Identifiers & Names

