



# Address as an infrastructure component

- Danish experiences and perspectives

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# Overview

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- Introduction and “advertisements”
  - Nordic cooperation
  - European address infrastructure project
- Danish experiences
  - the concept of the address system and address data
  - Legally enforced standardization
  - the role of addresses in the e-Gov infrastructure
- Conclusions

# Nordic Address Forum

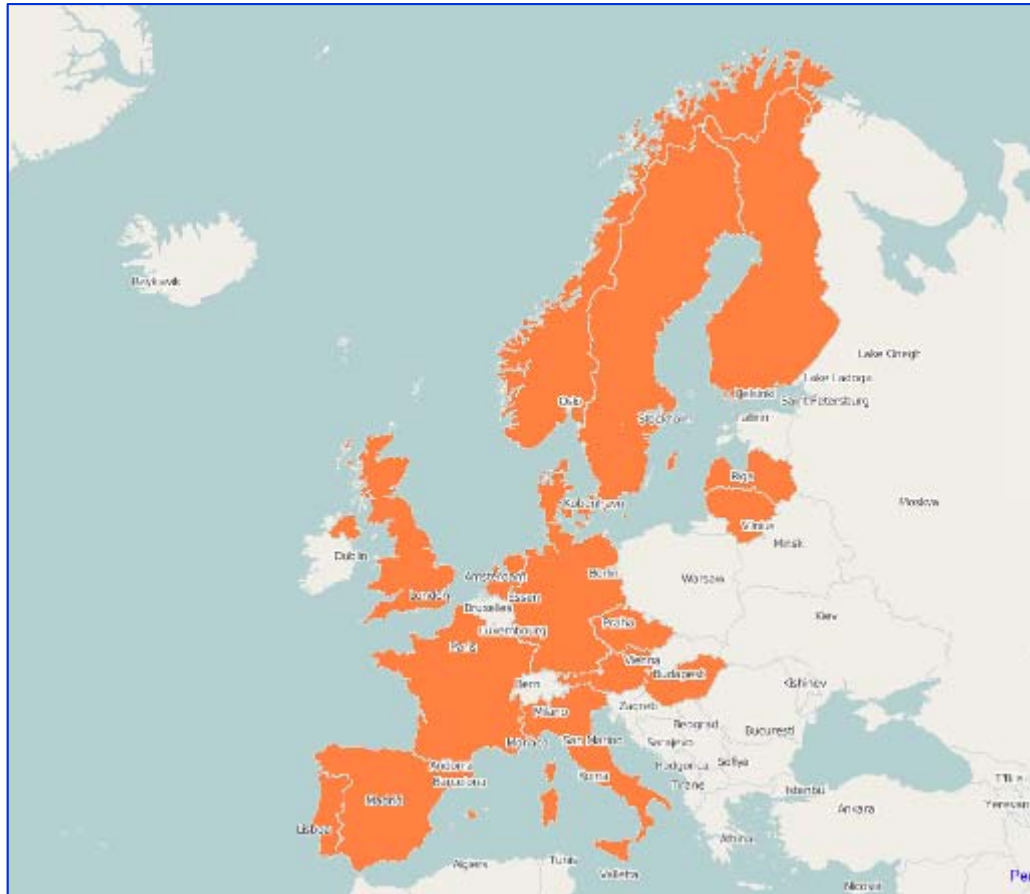
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- A network of public stakeholders
- Was founded in Stockholm 2000
- Annual address meetings
- Exchange of ideas and experiences
- Sharing of best practice

# EURADIN: European Address Infrastructure

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- EC eContent Plus project
- 30 European partners
- A best practice network
- Creating a 'critical mass' of content
- Providing seamless address services
- Supporting INSPIRE

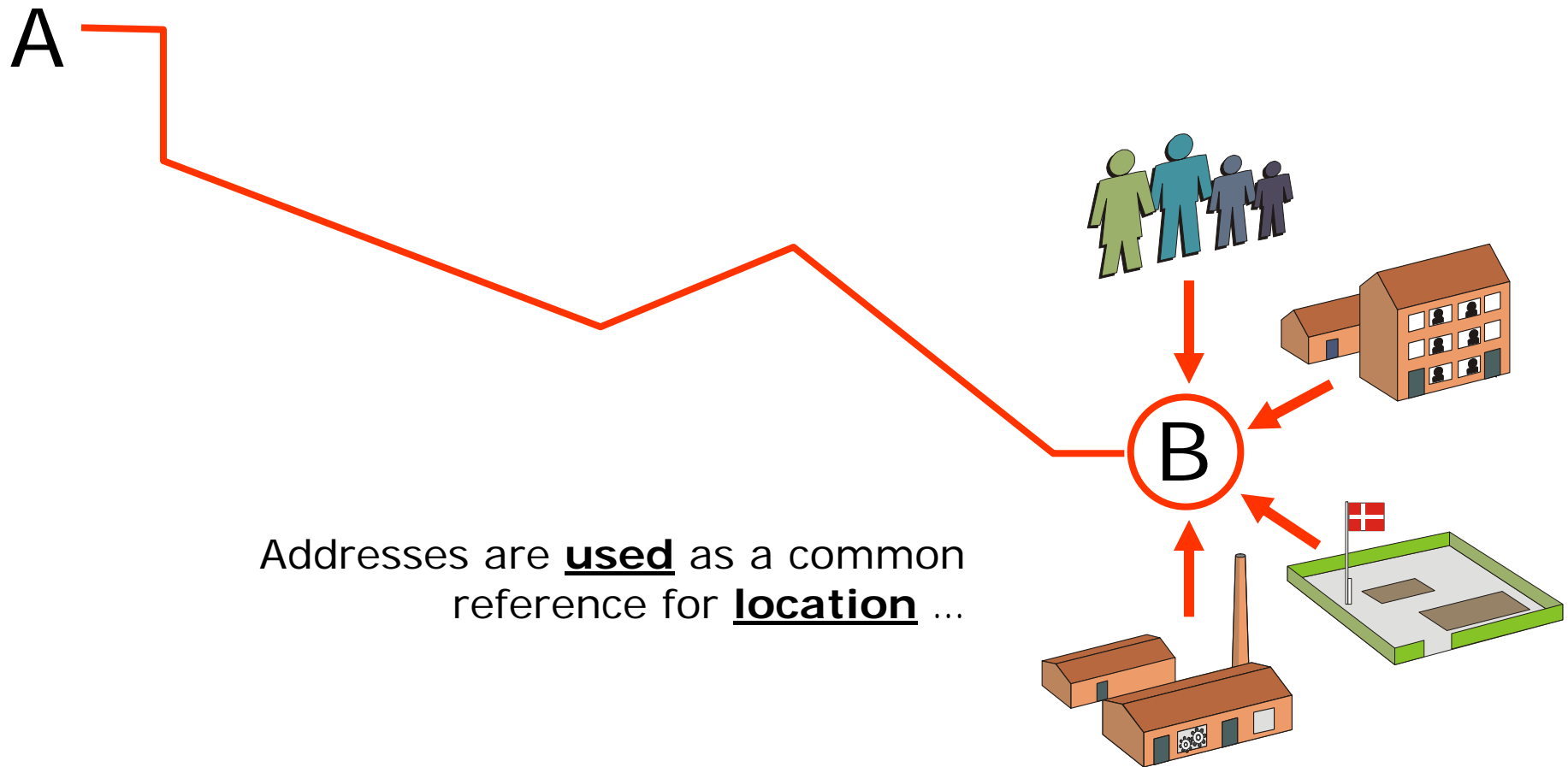
# Original Purpose of the Address System

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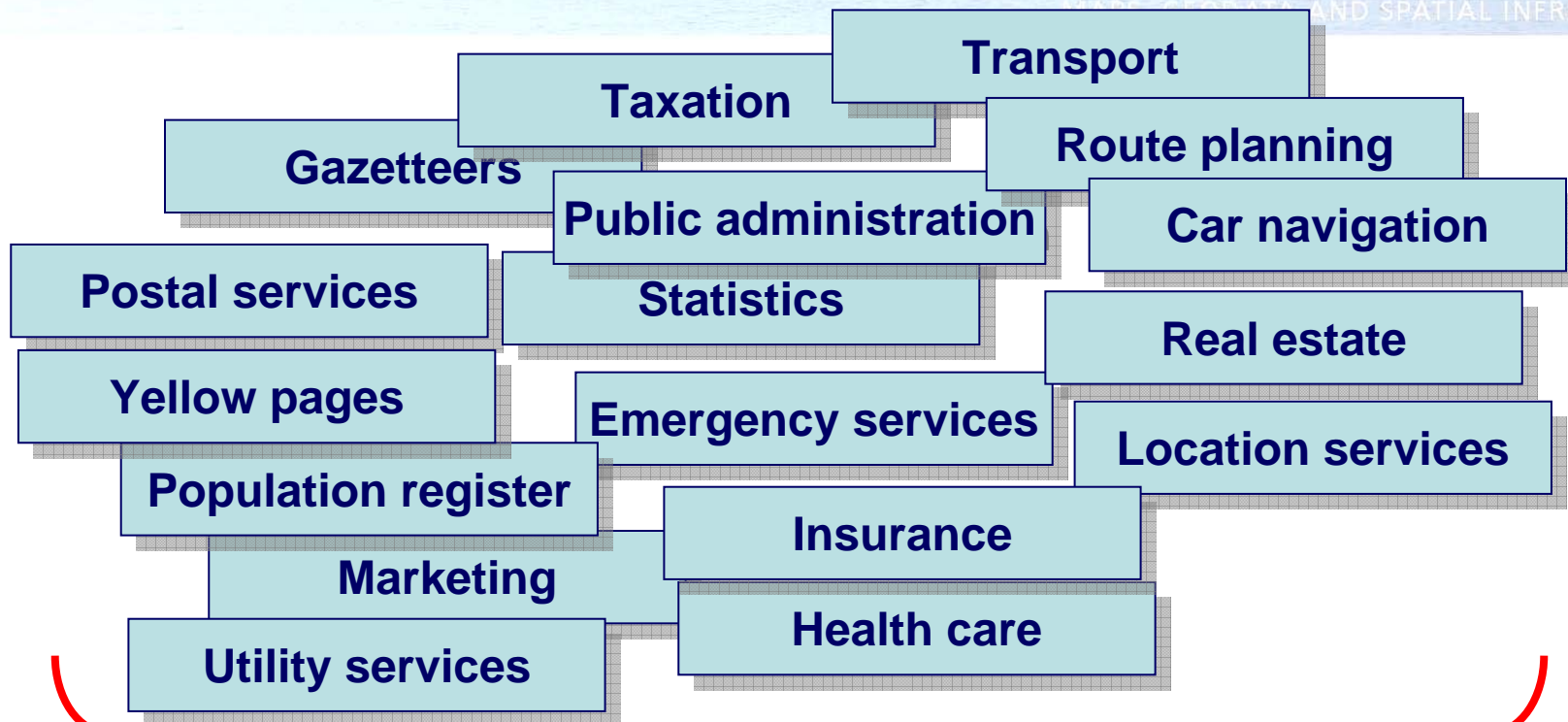
# Extended use for Location Referencing

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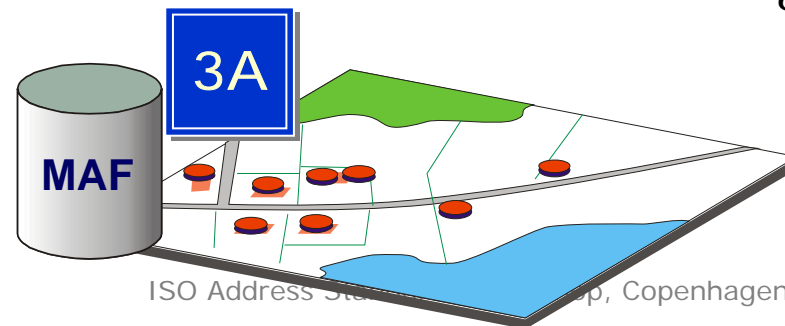


Addresses are used as a common reference for location ...

# Address user group is almost unlimited



*Uses addresses as a common reference for identification and for linking data from different sources ...*



# Addresses are crucial

... without addresses  
navigation is difficult

*Bratislava, August 1968*



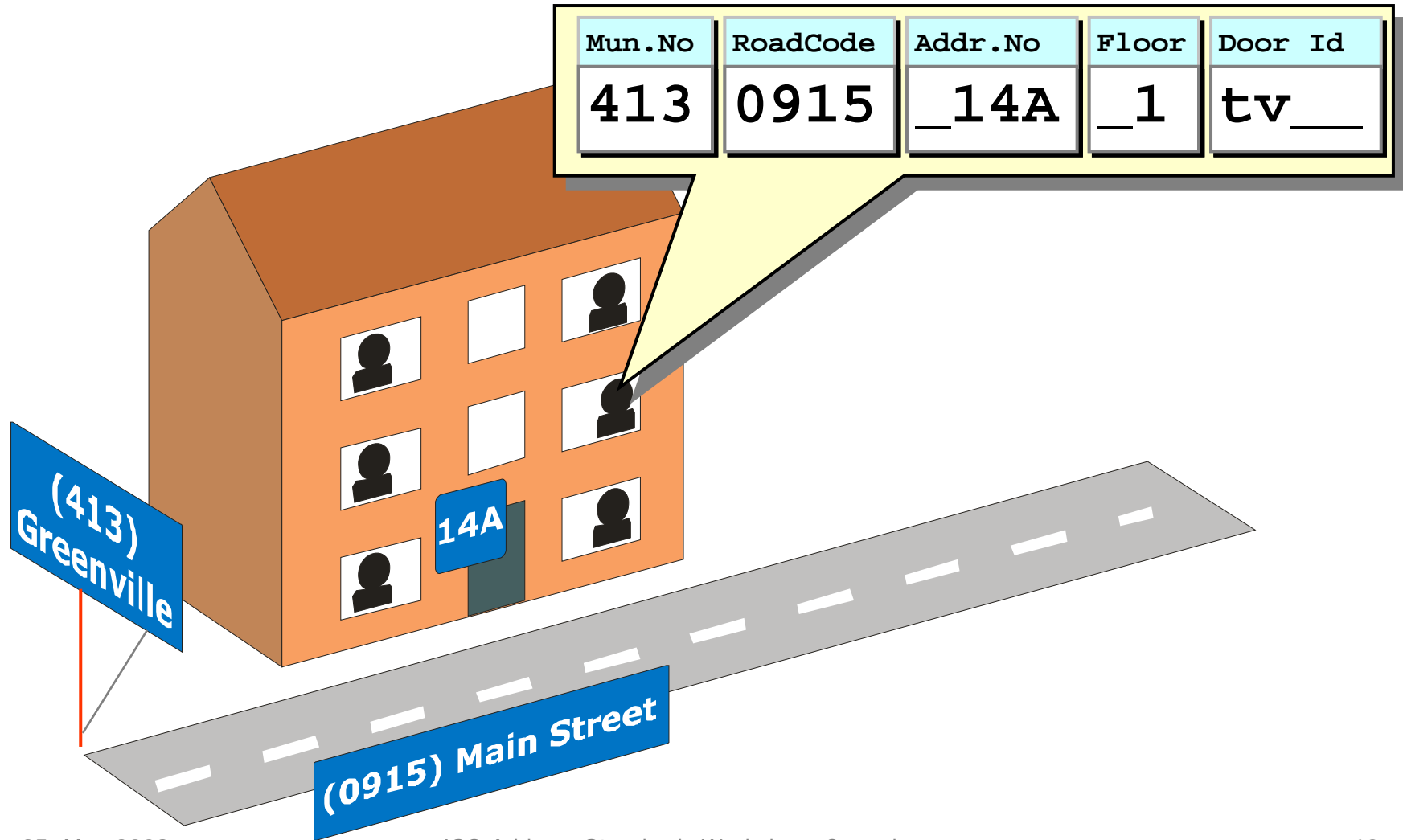




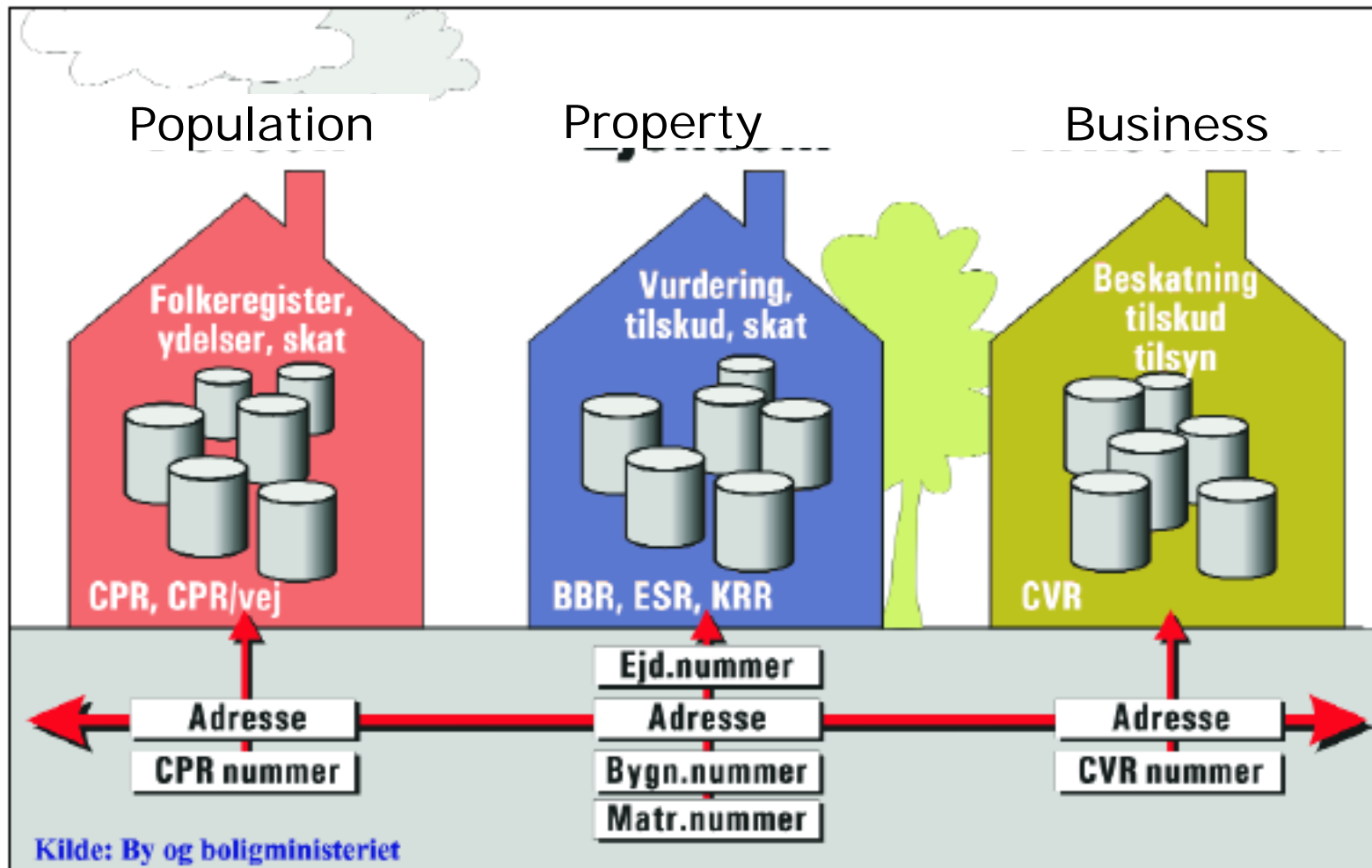
# Background (Denmark)

# Address Data Exchange Format 1980

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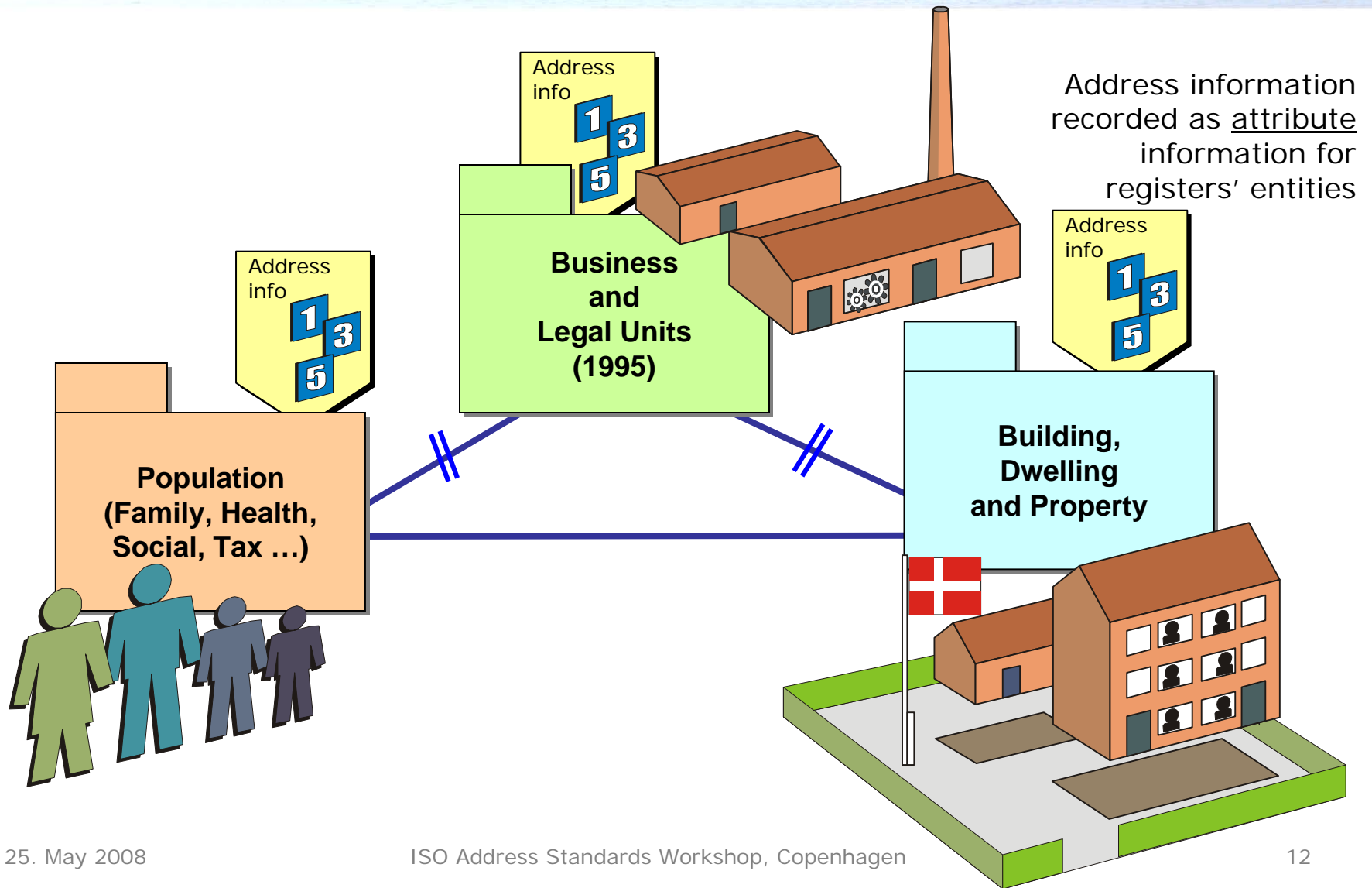


# Addresses as a common link

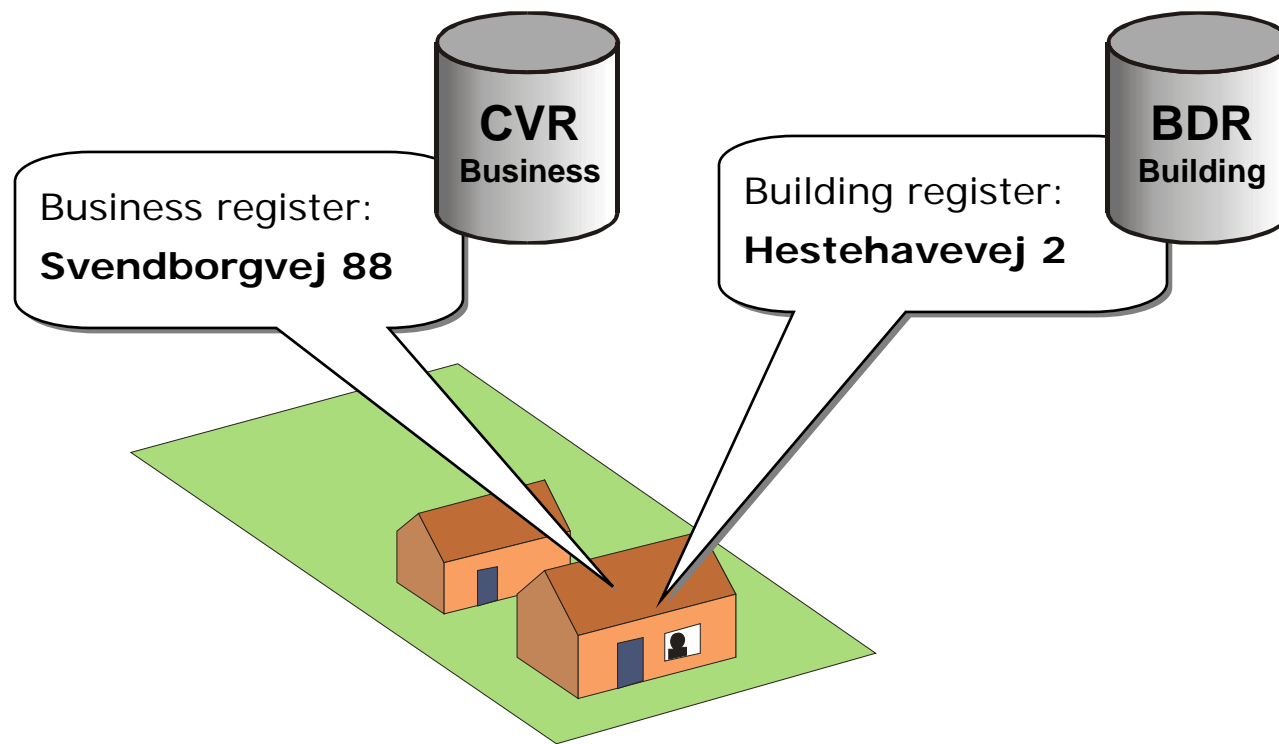


# Change of Concept 1990-95: Problem

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# The "mismatch" problem



# Mismatch example

The correct address is *Hestehavevej 2*



Several business entities are registered with the address *Svendborgvej 88*. This address is not in the address register.



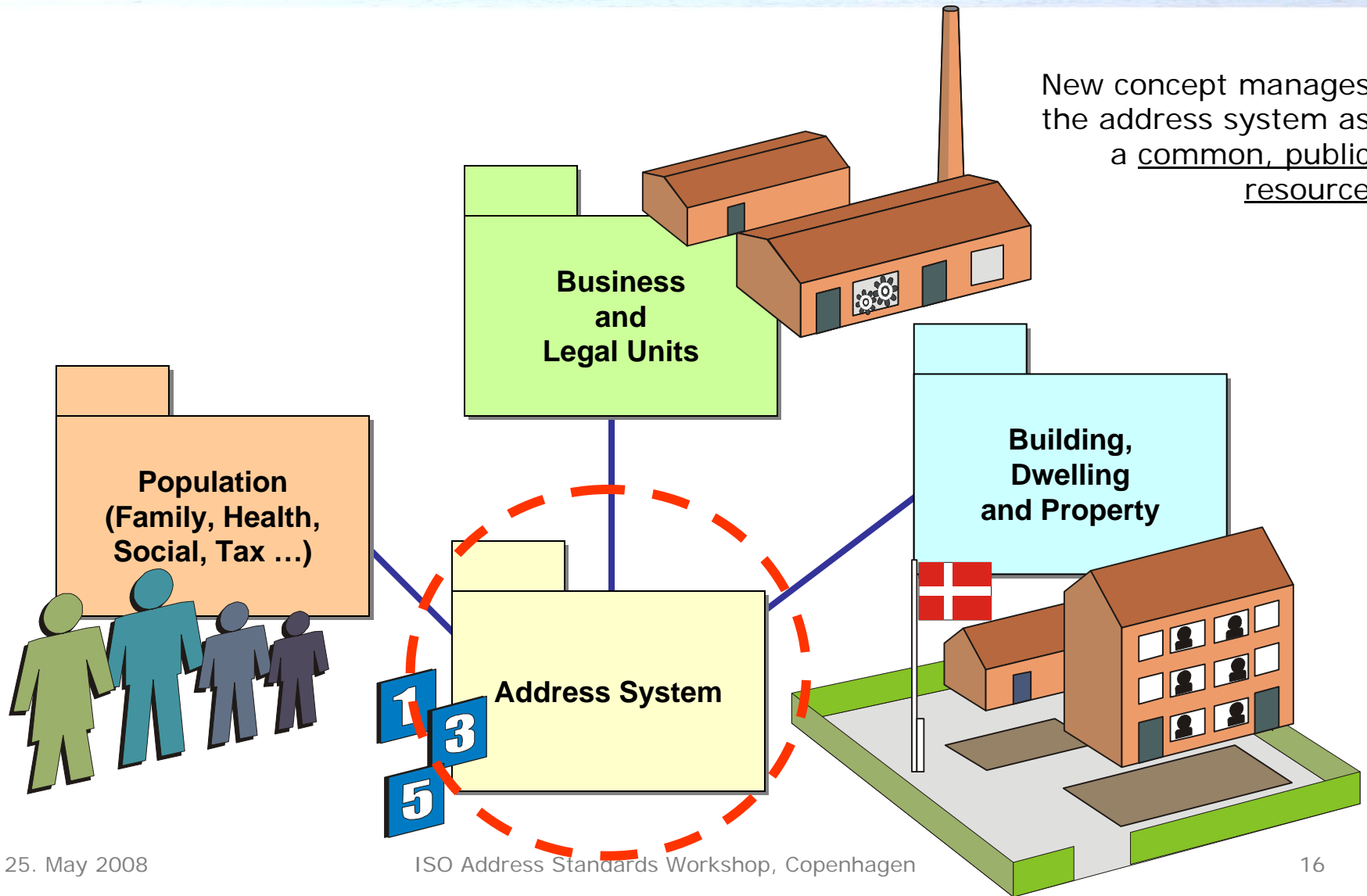
# The change of concept ...

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## Attribute or feature type?

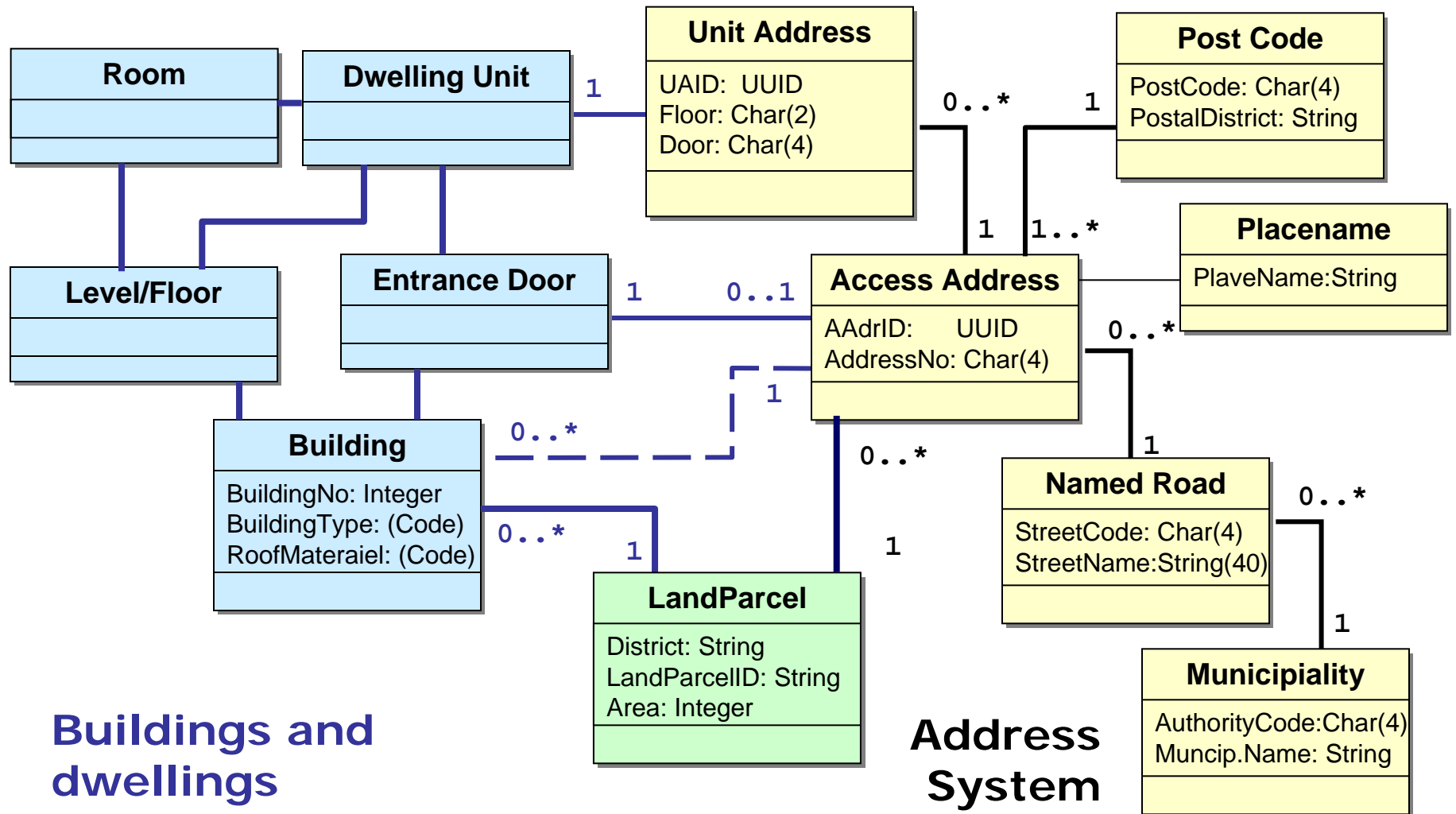
# Change of Concept 1990-95: Solution

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# Use for: Registration of Buildings

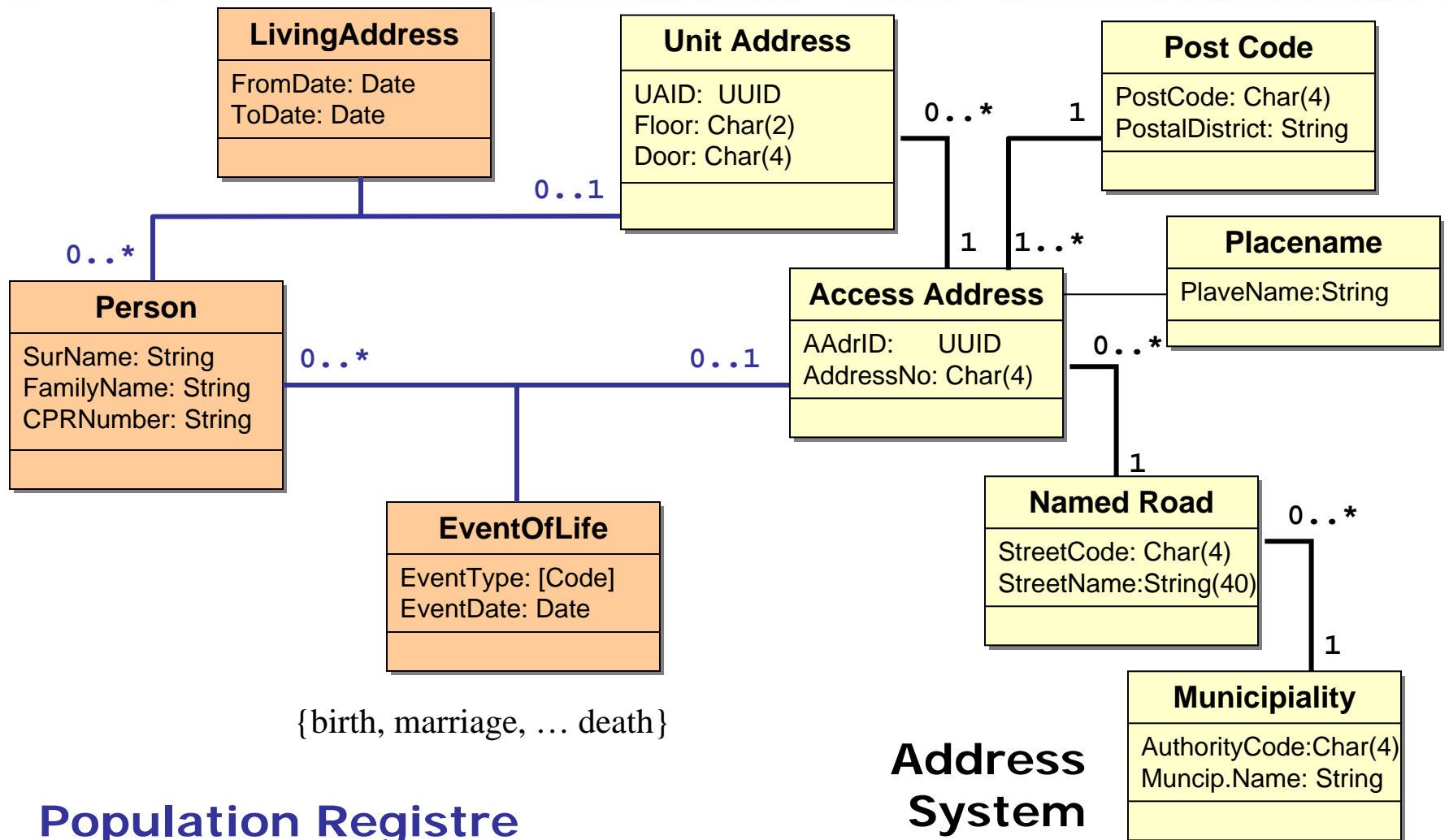


**Buildings and dwellings**

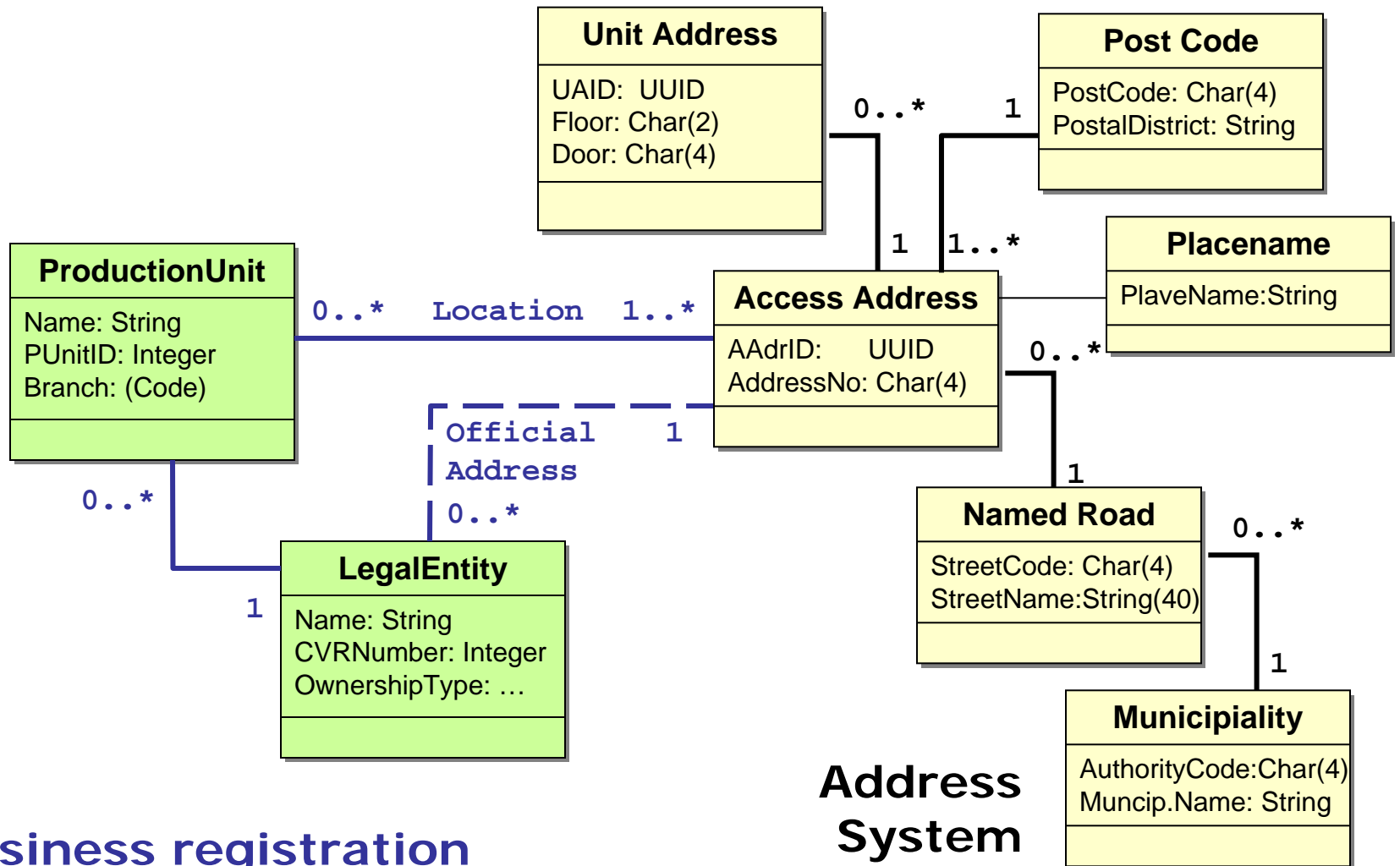
**Address System**

# Use for: Registration of Population

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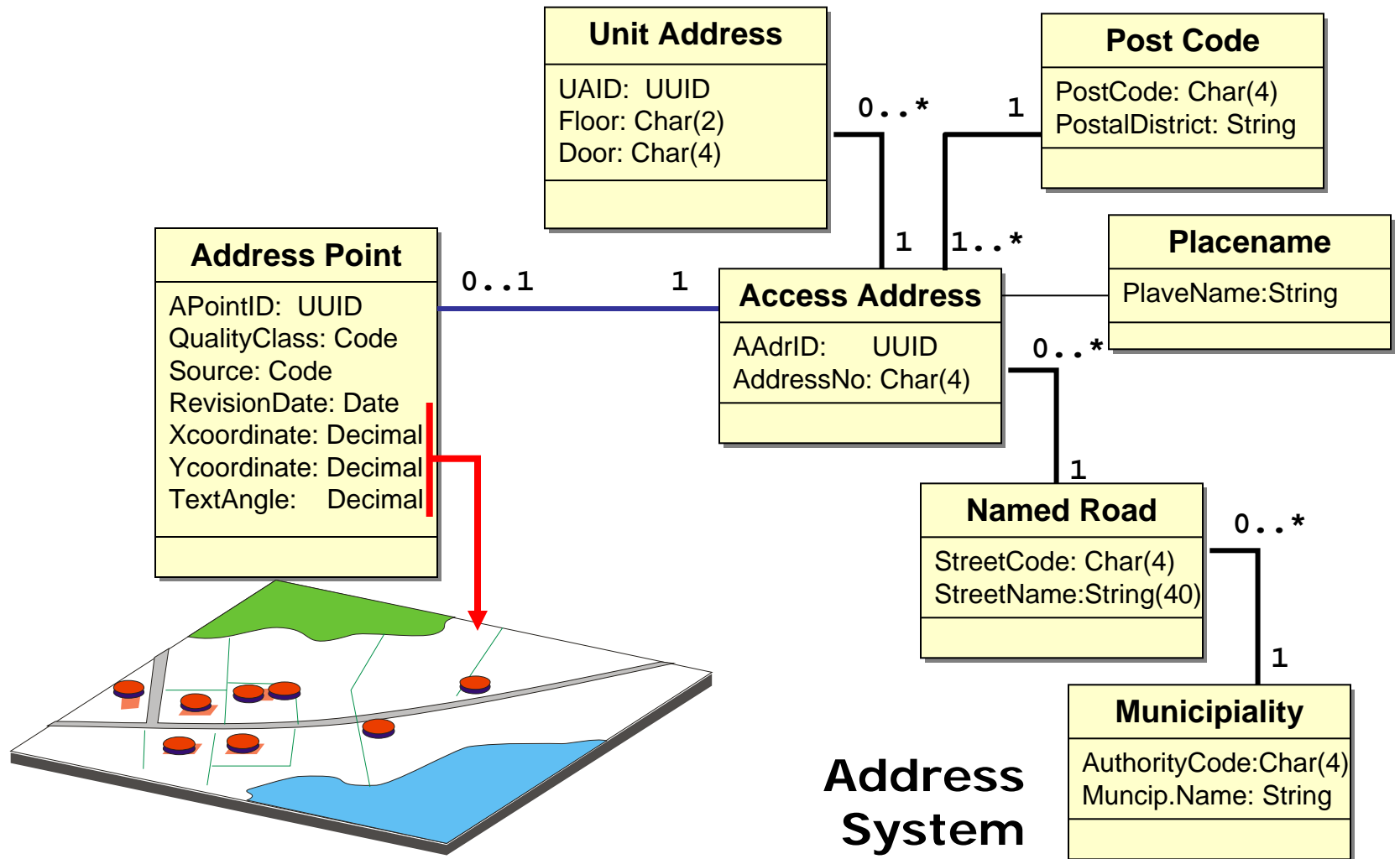


# Use for: Registration of Business's

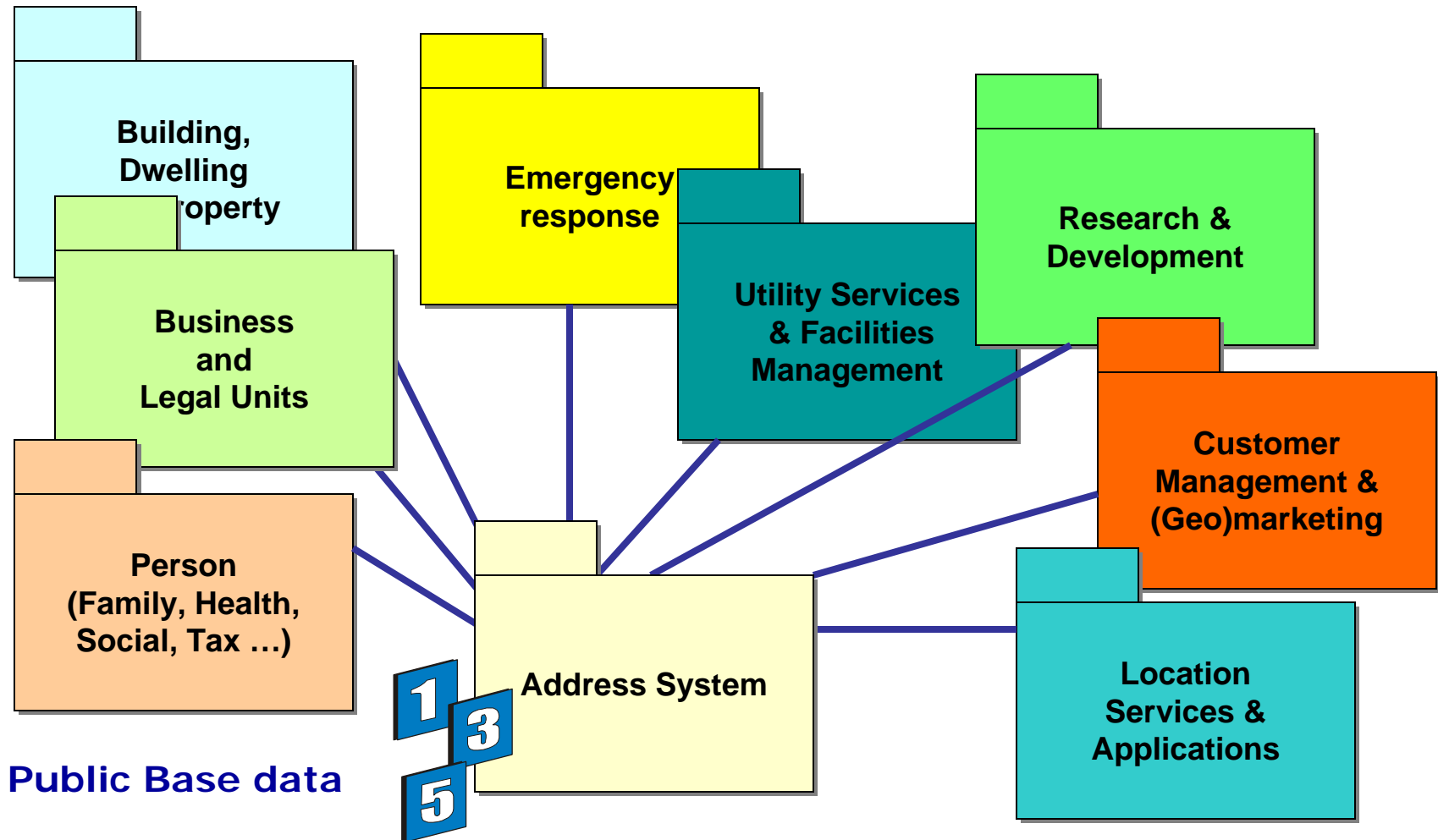


# Adding direct spatial information 2001

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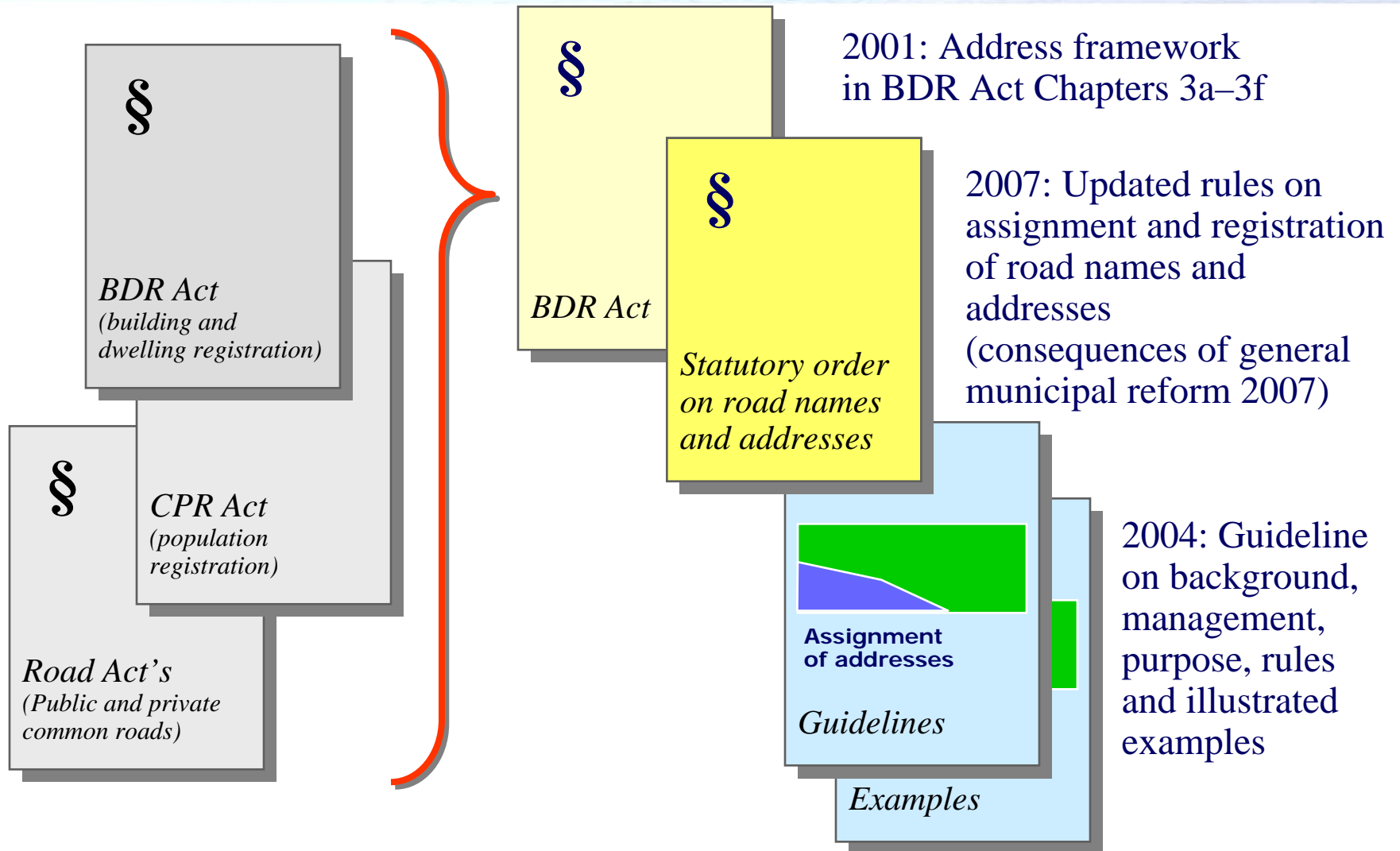
# Potential Benefit for Private Sector





# Enforcement and standardization by legal act

# Enforcing Address Legislation



# Definition of Purpose and Scope

## Statutory on Road Names and

Pursuant to section 3c and 3f in the law of Building and date Act no. 767 of September 12<sup>th</sup> 2002, as changed by 2003, section 1 in law no. 601 of June 24<sup>th</sup> 2005 and section 21<sup>st</sup> 2005, it is hereby established:

### Chapter 1 Purpose

Section 1. The municipality assigns and registers road names in accordance with sections 3a-3e in the law on building and dwelling registration.

(2) Road names and addresses are assigned with regard to helping citizens, utilities, emergency response services and others to orient themselves on the road, property, building, main entrance, dwelling or business entity etc. in the easiest possible way. In this order, assigning means the act whereby a road designation takes effect (for instance a new road name), as well as the act whereby a road designation is changed or cancelled.

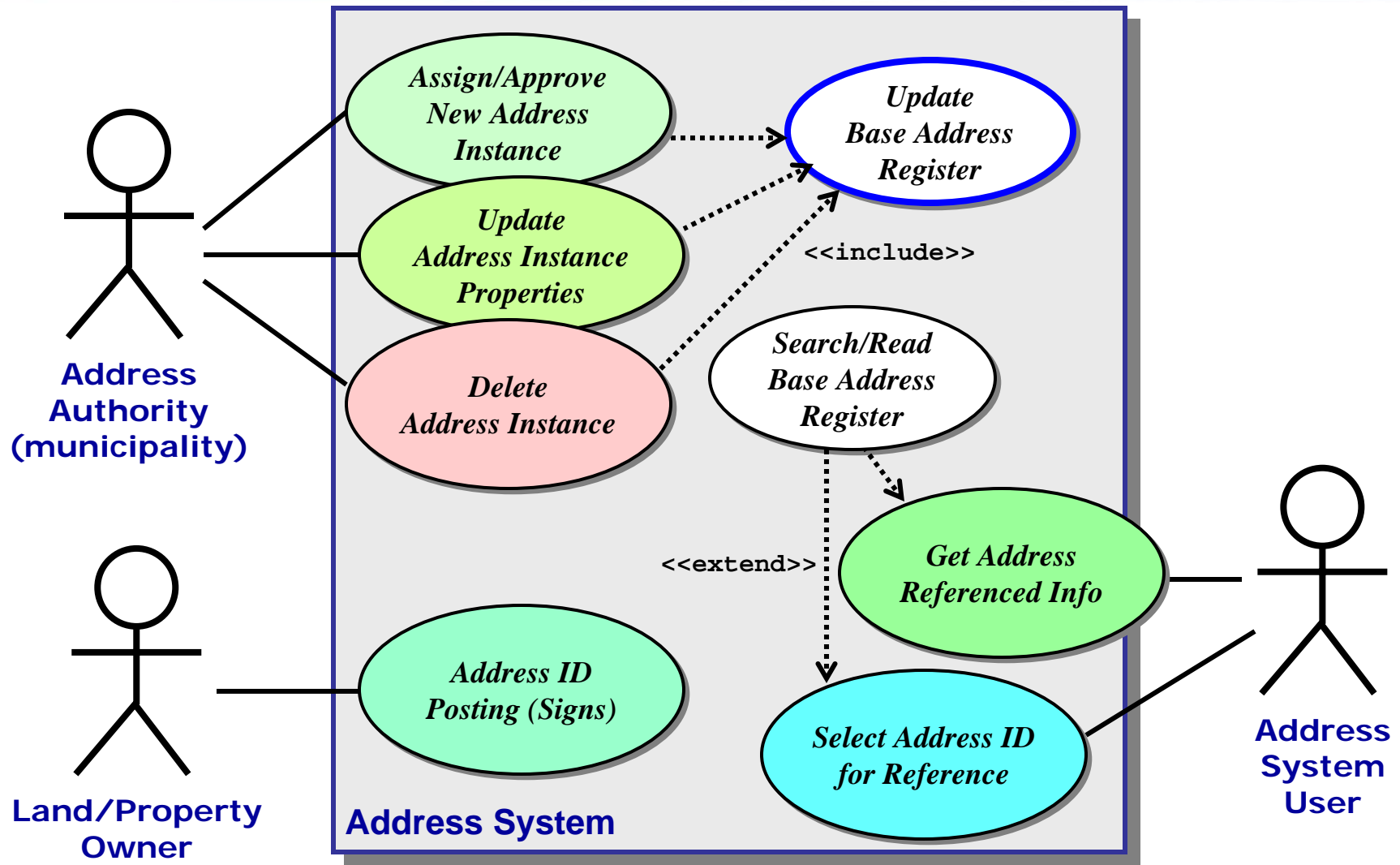
(3) The registration of the designated road names and addresses has as its purpose to ensure that correct information on the subject may be available in a uniform way to citizens, the business community and the public administration.

*(2) Road names and addresses are assigned with regard to helping citizens, authorities, utilities, emergency response services and others to orient themselves and to locate the road, property, building, main entrance, dwelling or business entity etc. in question in the easiest possible way.*

*(3) The registration of the designated road names and addresses has as its purpose to ensure that correct information on the subject may be available in a uniform way to citizens, business community and public administration.*



# Definition of Custodianship and Roles



# Land parcel ~ Building ~ Address

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## Address

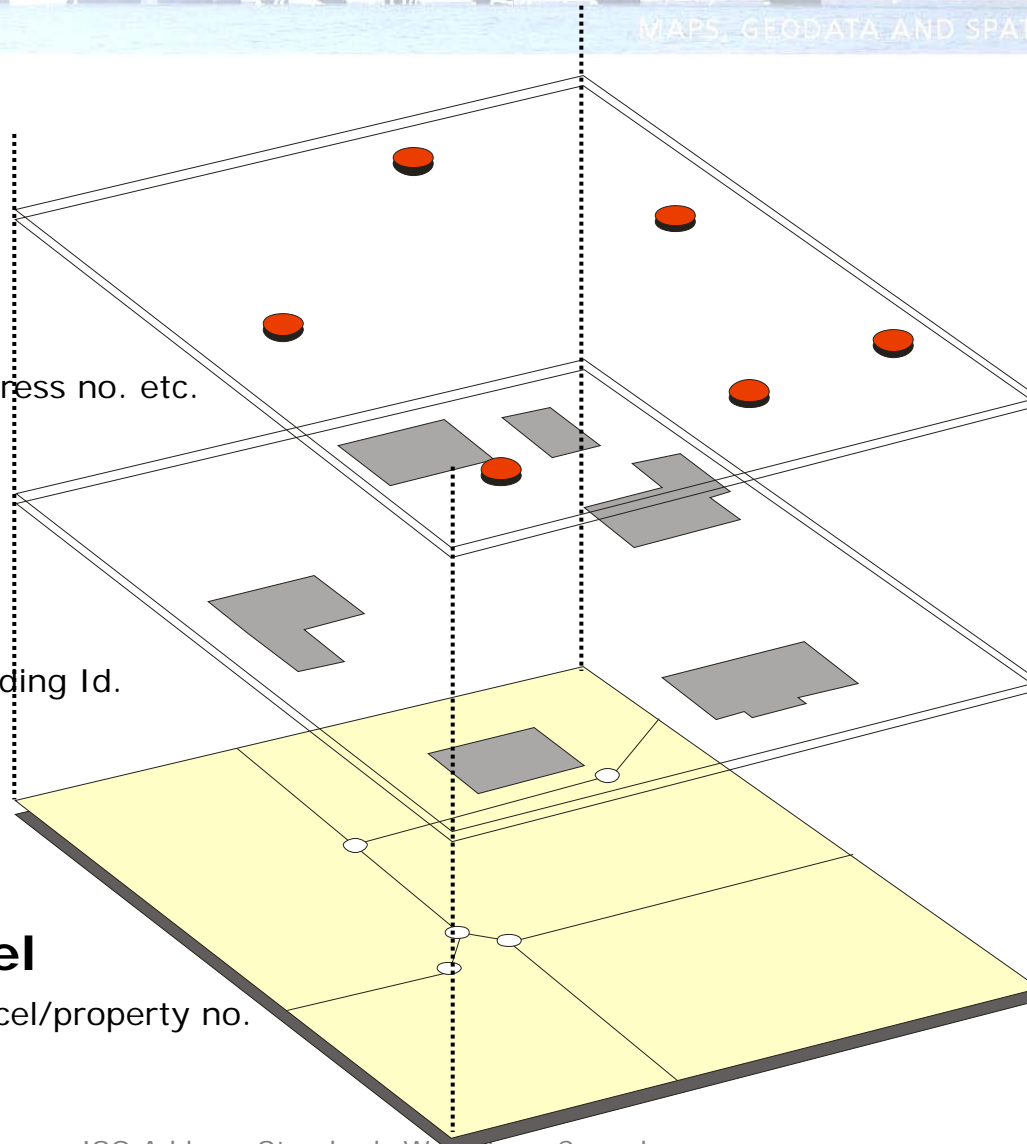
Identified by address no. etc.

## Building

Identified by building Id.

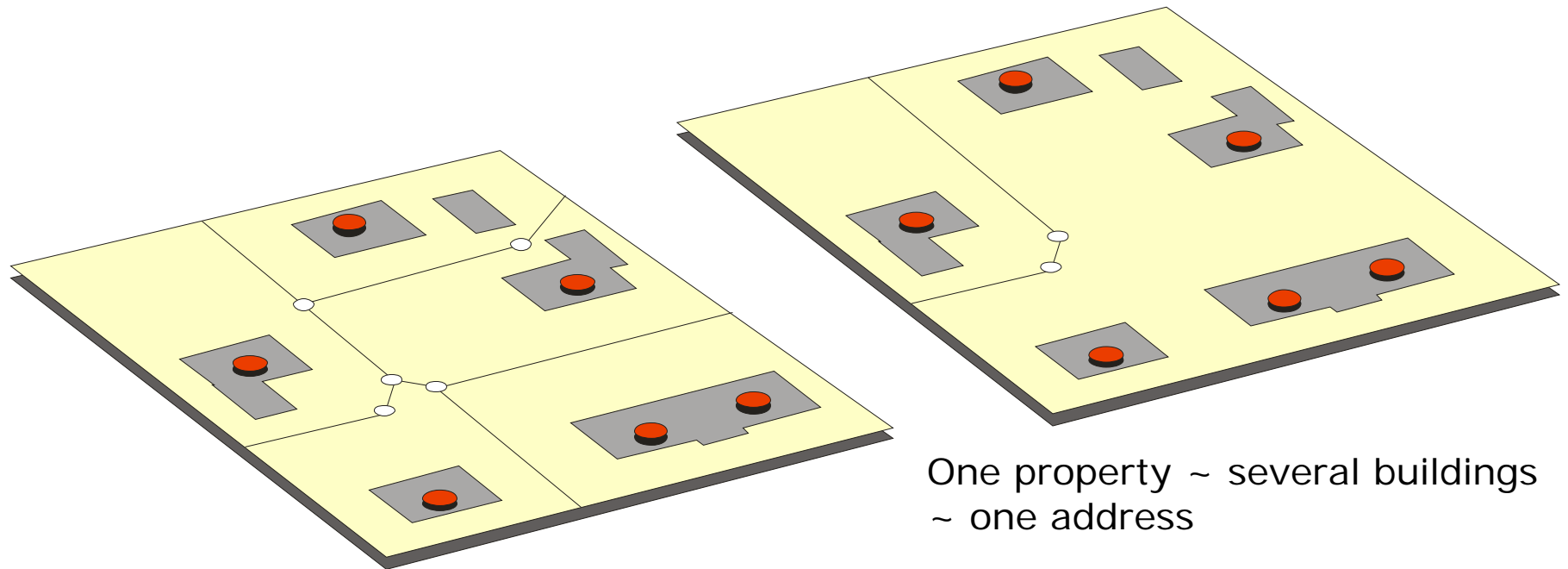
## Land parcel

Identified by parcel/property no.



# Relationship Examples (DK)

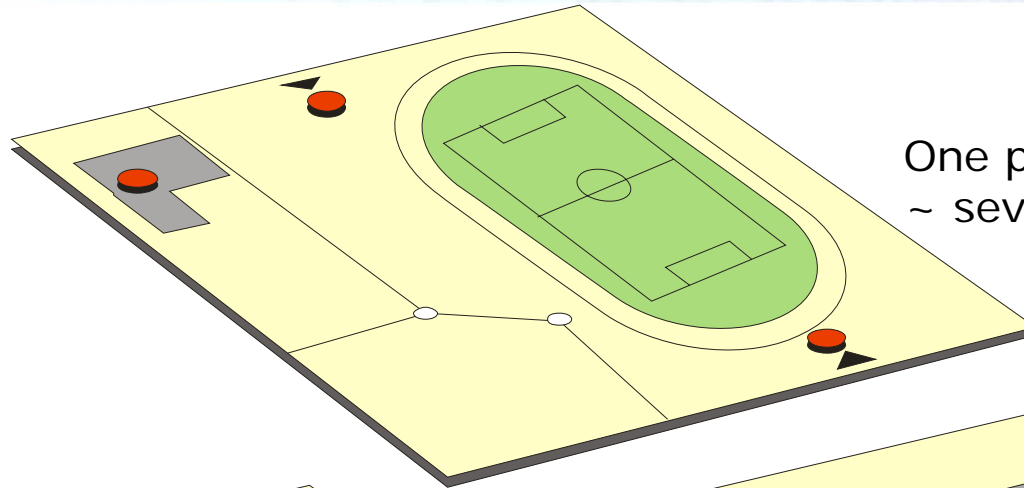
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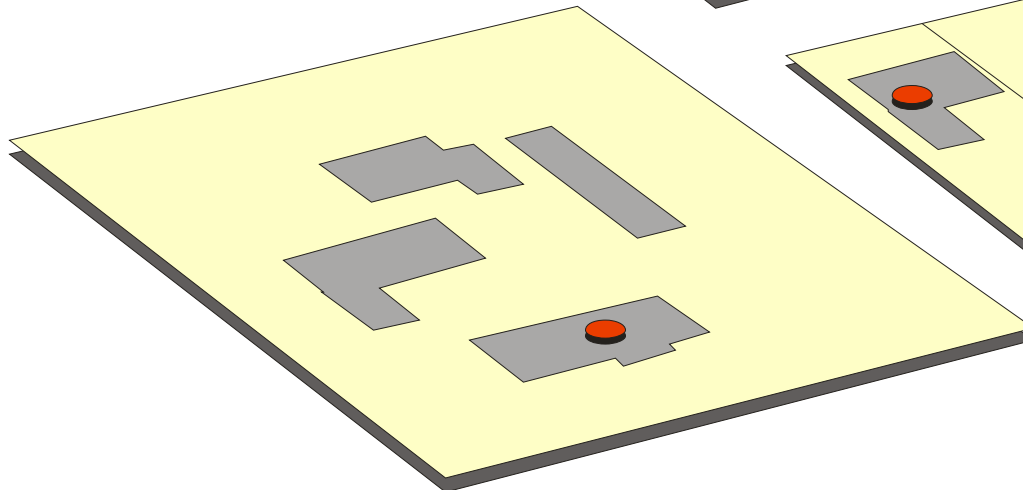
One property ~ one building  
~ one address

One property ~ several buildings  
~ one address

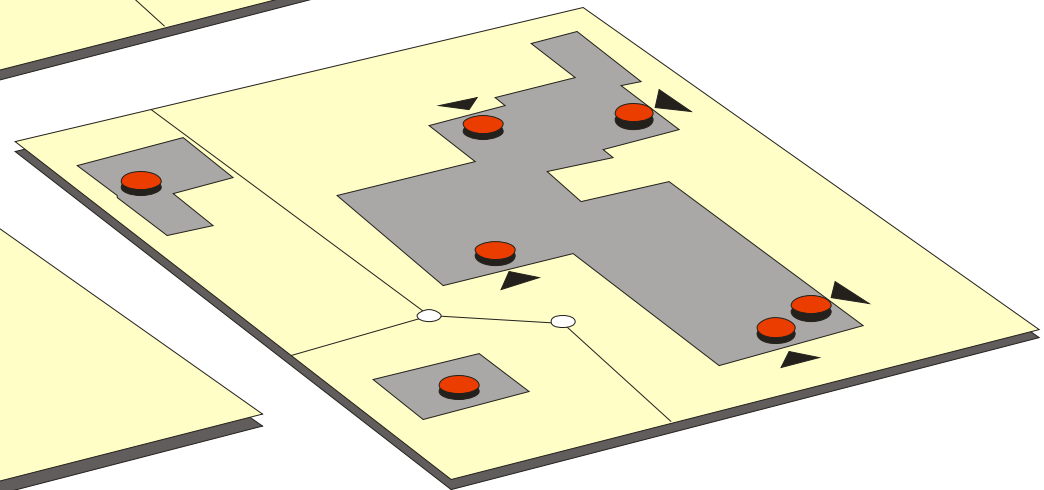
# Relationship Examples (DK)



One property ~ no buildings  
~ several addresses



One property ~ several buildings  
~ one address



One property ~ one building  
~ several addresses

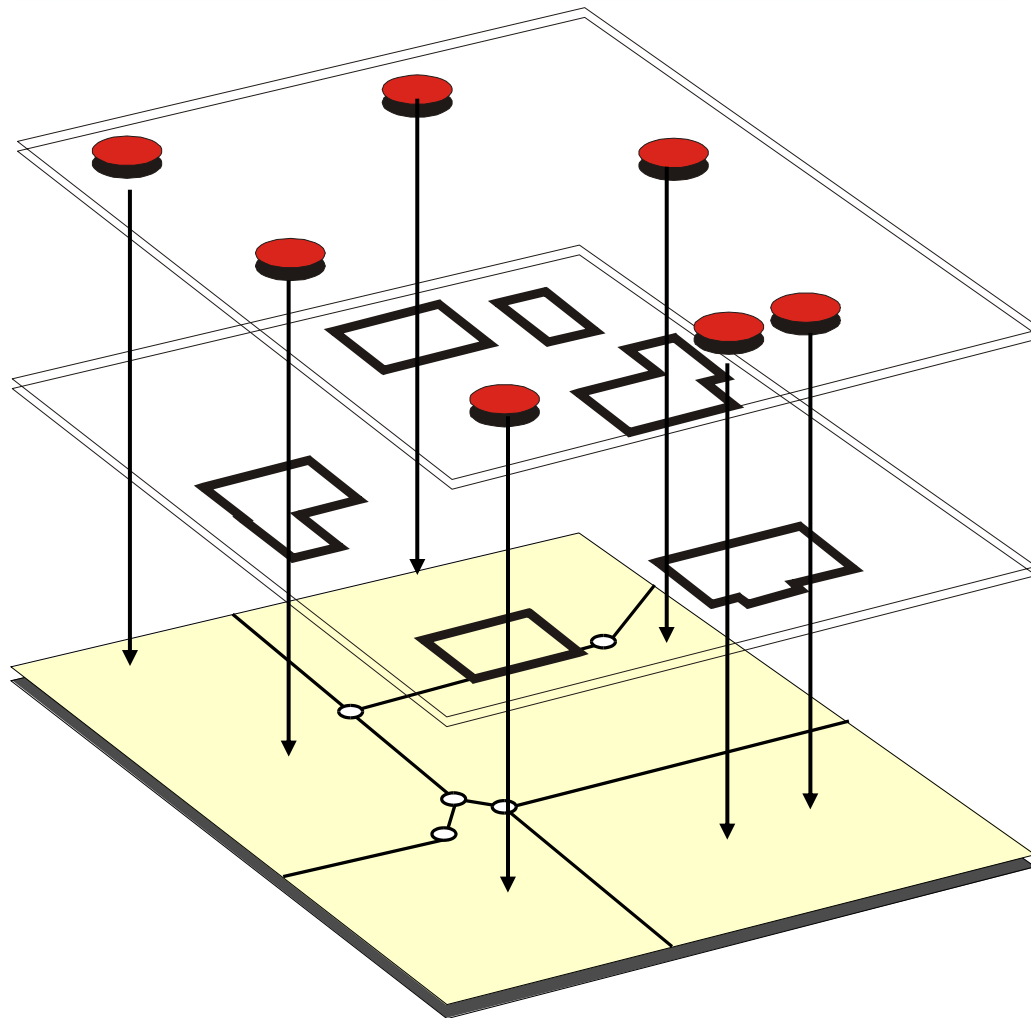
# Feature Concept Definition (DK)

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*“An address is an independent, administrative object that identifies a specific way of access to a property, building, technical facility or the like, in relation to the road network.”*

# Defined Rules for Relationships (DK)

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An address must have an identifier (address no.)

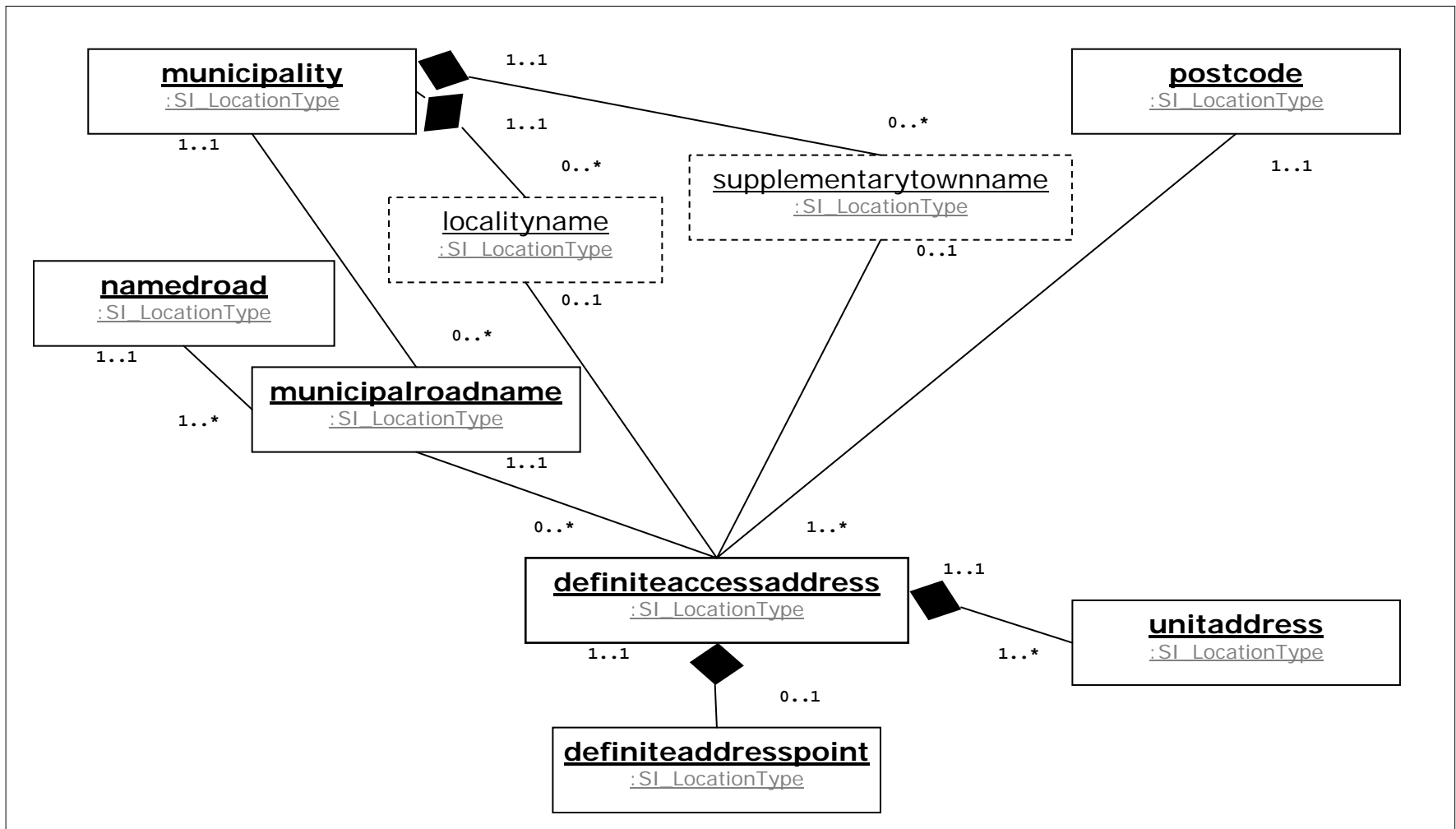
A address must have a link to a specific thoroughfare (road name etc.) or area

An address may be related to a building or construction (a building could have several addresses attached)

An address must have a reference to a one specific land parcel (a land parcel may have several addresses attached)

An address must have a reference to a point that represents the location of the address site

# Conceptual Model and Features (DK)



# Definition of Data Types by Act of Law

## Example:

**Section 8.** *Every named road in the municipality is assigned a road code (street code). The road code must always have four digits which should be located in the interval between 0001 and 9899.*

*(2) The road code together with the municipal code ( ... ) form a unique identification of the named road with its corresponding road name.*

(4) Road names are regarded as almost identical in the event of a change in the condition that they can be confused by normal

(5) When a part of a road network crosses a road, it is counted as one named road if the road names are in ascending order in one direction. The road name must be the same in the

(6) The municipal council of a larger urban area, a surplus measures surplus to the road names.

Road c

**Section 8.** Every named road in the municipality is assigned a road code (street code). The road code must always have four digits which should be located in the interval between 0001 and 9899.

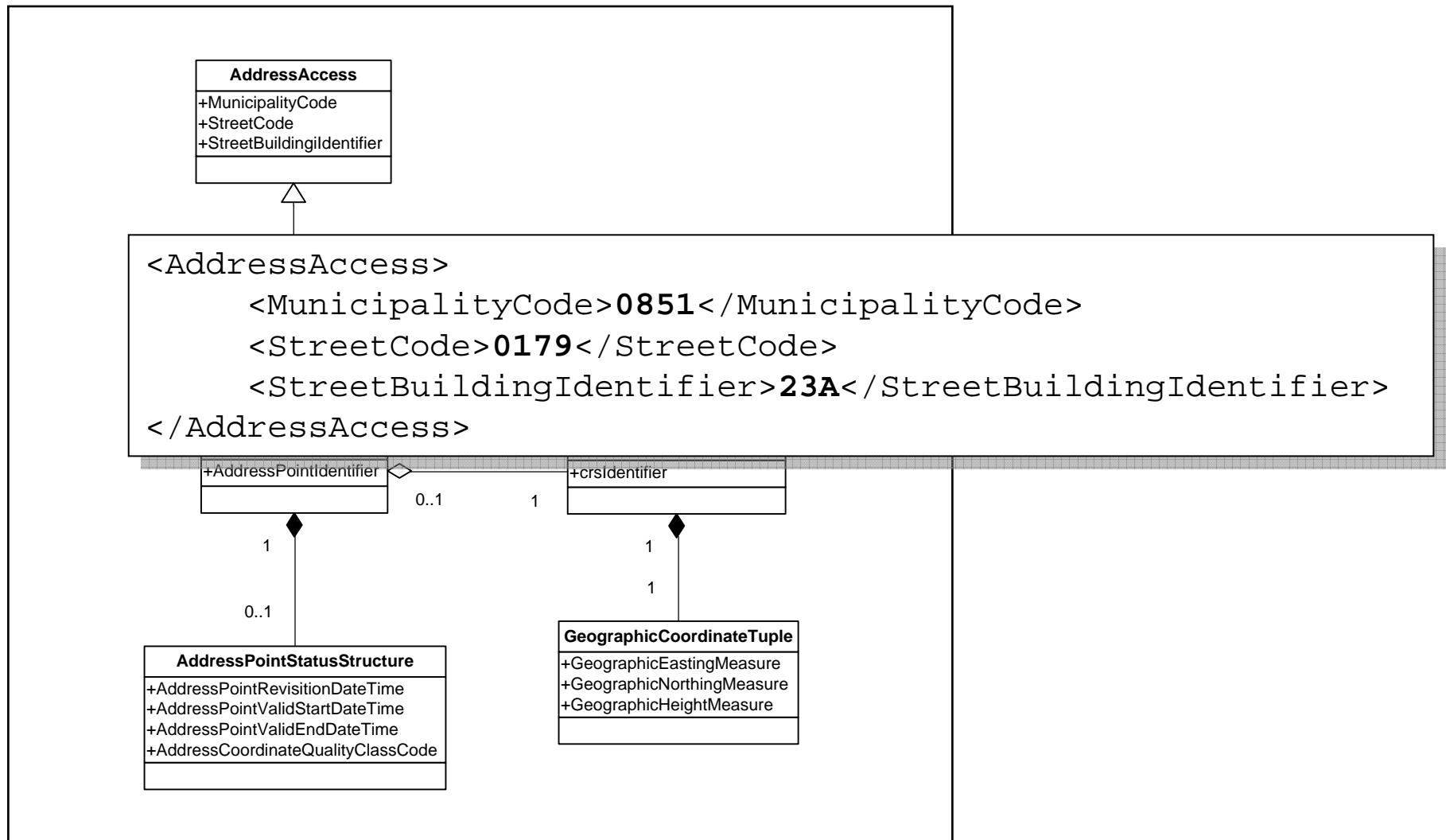
(2) The road code together with the municipal code issued by the Ministry of Home Affairs, which consists of a zero and three digits, form a unique identification of the named road with its corresponding road name. There can only be one road code for every named road in the municipality, and every road code must be linked to only one named road.

(3) An assigned road code may not be changed. If a new or changed road name is assigned to the named road in its entirety, the originally assigned road code must be conserved. If the road



# eGov Core Component Standardization

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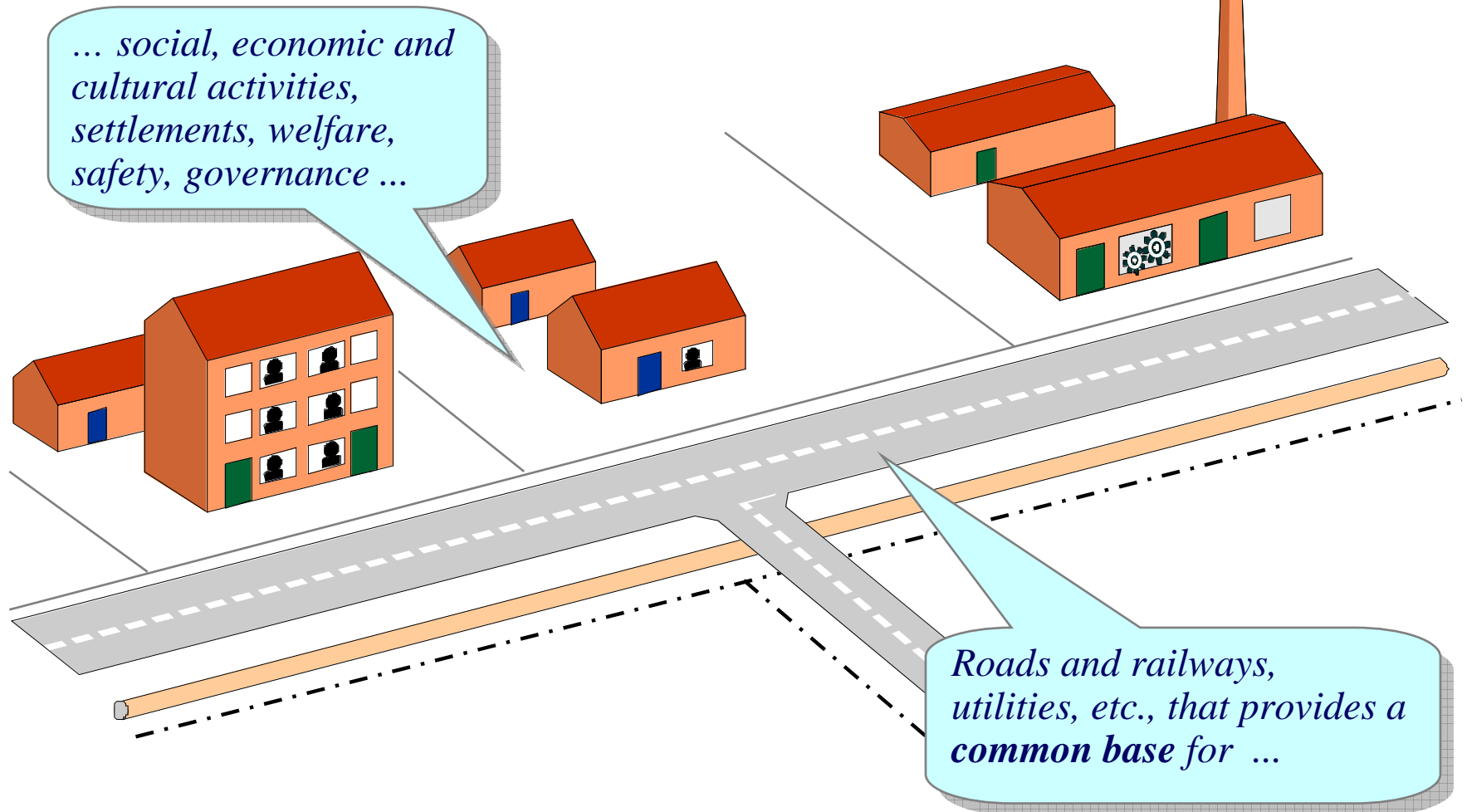




# Addresses in eGov Infrastructure

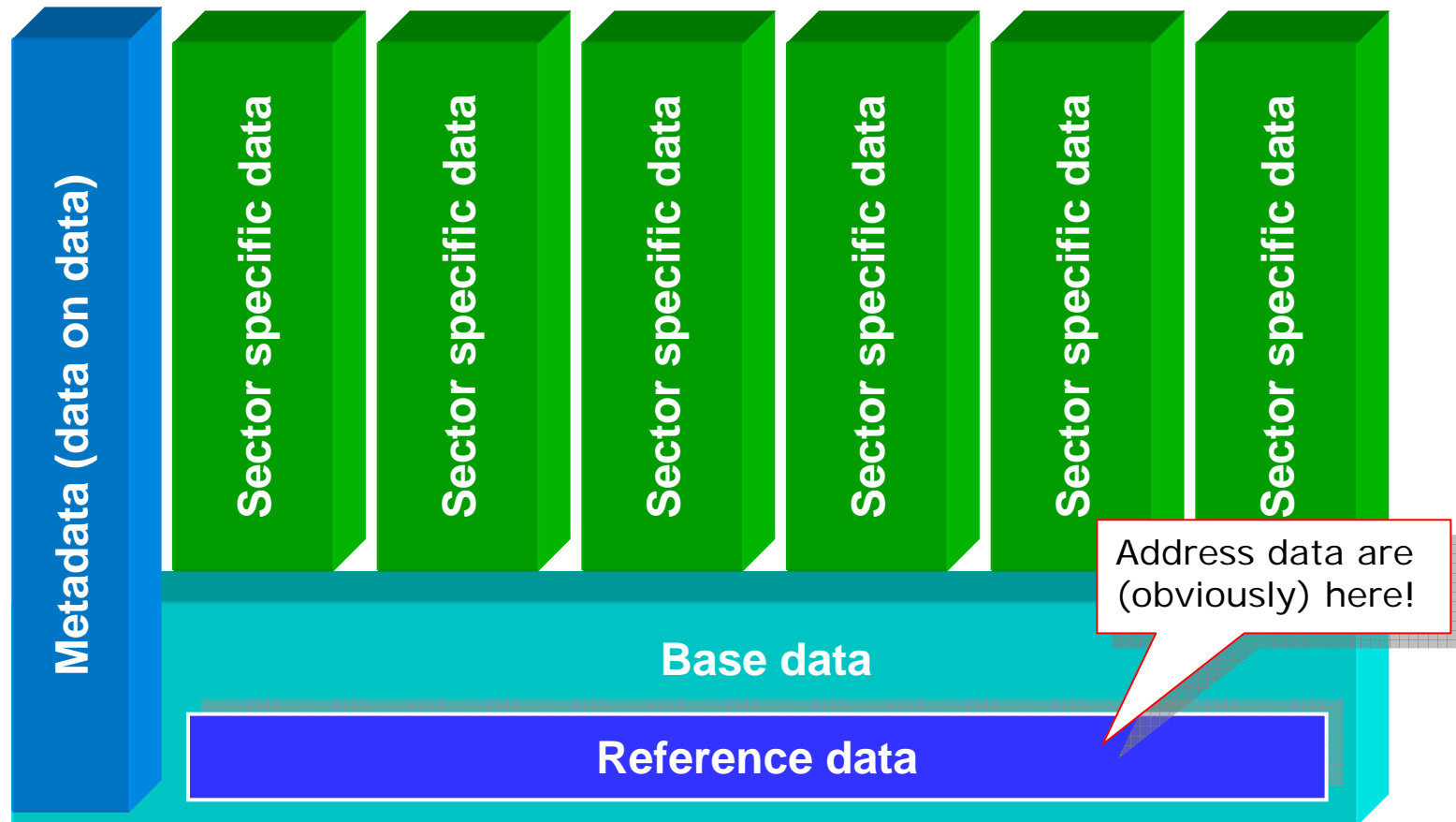
# Infrastructure ...

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# Infrastructure for Spatial Information

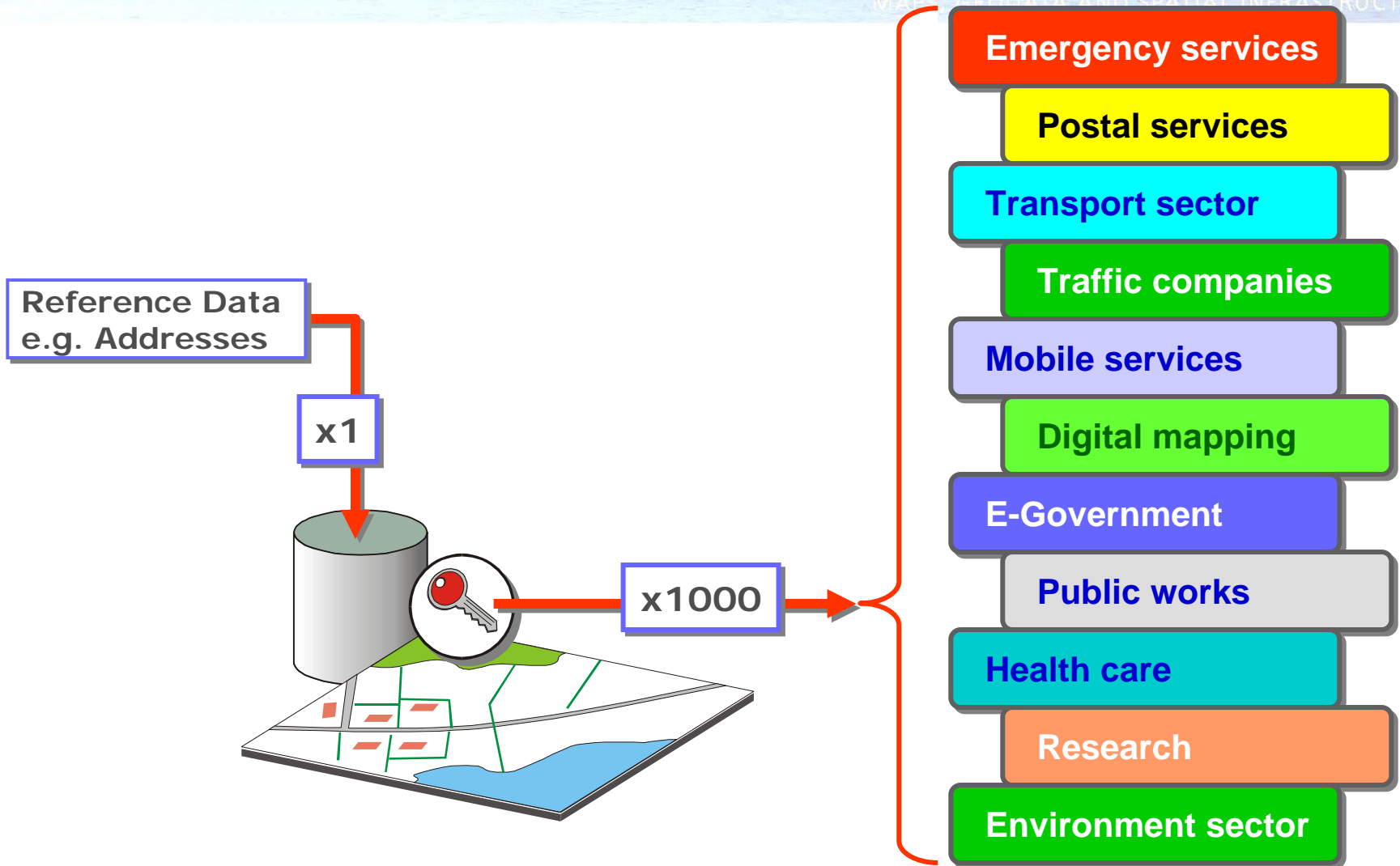
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*"INSPIRE" and B. Hulegaard et al: "Base Data Report ", Copenhagen, 2004*

# The Rationale in Reference Data

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# The Rationale in Standardization

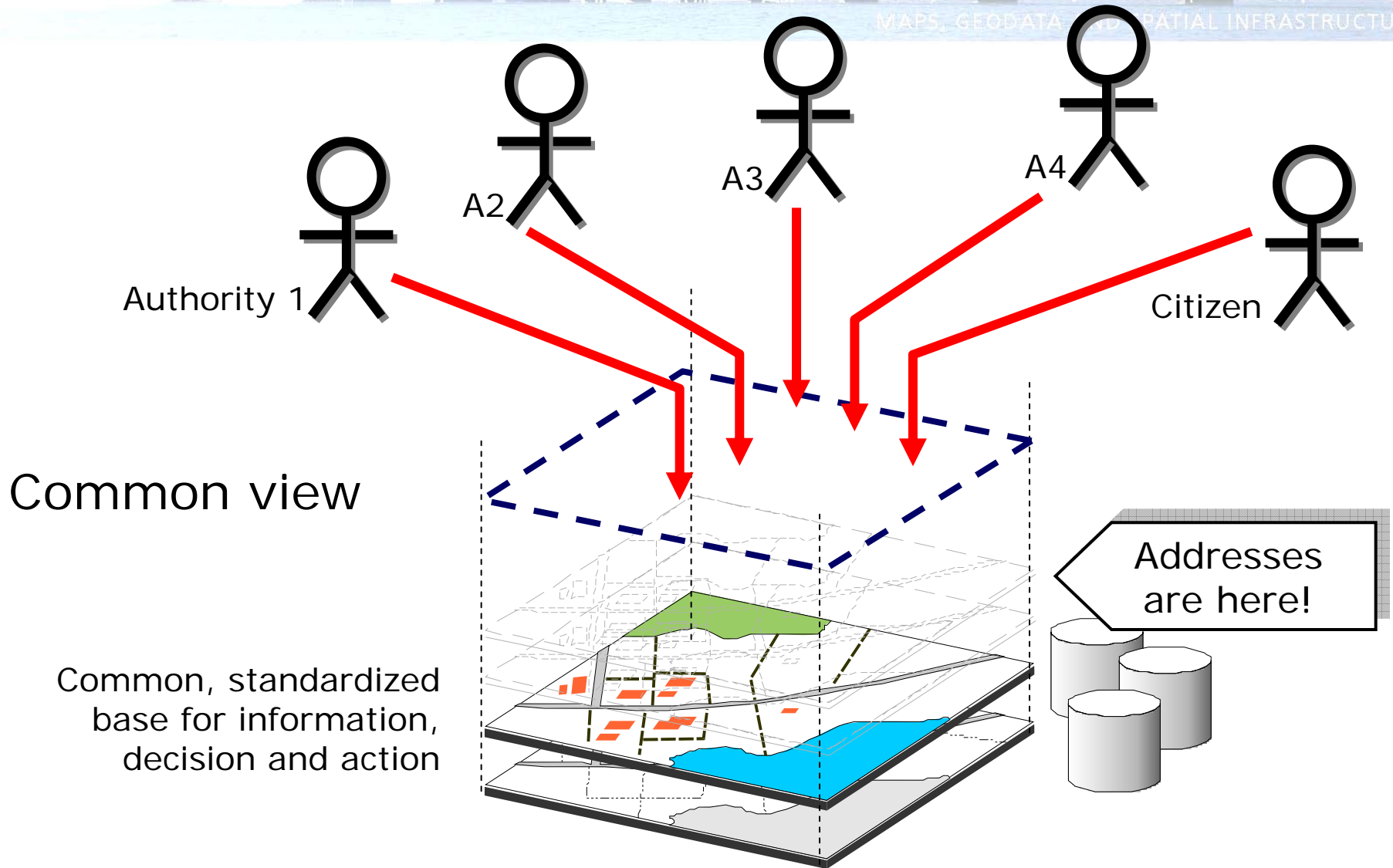
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*Joint Disaster management  
Fireworks factory accident in Kolding, Denmark 4th Nov. 2004  
Photo: Uffe Kongsted., Politiken, [www.pol.dk](http://www.pol.dk)*

# The Rationale in Standardization

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## Thank you

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