



Working with the PHIN LDM

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Overview



- **Review of some Basic Concepts in Data Modeling**
- **Application Database Model Design Approach**

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- **Application Database Model Design Approach**

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Dimensions of Models



- **Scope Dimension**
Enterprise → Domain → Application
- **Specificity Dimension**
Conceptual → Logical → Physical

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Scope Dimension



Enterprise → Domain → Application

- **Enterprise Models address the entire set of concepts relevant to the Enterprise.**
- **Domain Models address a single subject, or a particular perspective on the Enterprise.**
- **Application Models address a specific functional area within the domain and include only those concepts needed to accomplish a particular business activity.**

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Specification Dimension

- Conceptual → Logical → Physical
 - ◆ Conceptual Information Model
 - ★ “The 10,000 Foot View”
 - ◆ Enterprise Logical Model
 - ★ More Focused, More Detailed
 - ◆ Application Logical Model
 - ★ Details the specific information requirements of the application
 - ◆ Physical Data Model
 - ★ Fully detailed, including processing requirements

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PHIN Logical Model

- **Scope Dimension**
 - ◆ Enterprise → **Domain** → Application

- **Specification Dimension**
 - ◆ **Conceptual** → **Logical** → Physical
(Ideas → Information → Data)

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Application Database Model

■ Scope Dimension

◆ Enterprise → Domain → **Application**

■ Specification Dimension

◆ Conceptual → **Logical** → **Physical**
(Ideas → Information → Data)



Overview



- **Review Of Some Basic Modeling Concepts**
- **Application Database Model Design Approach**

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- **“PHIN compliance, with respect to the logical data model, simply means that a derivative system is able to accurately represent each of the information concepts in its domain in a manner consistent with the PHIN LDM.”**

- Dale Nelson

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What does that mean?

- ◆ You can accurately discuss your data in terms created and defined in the PHIN Logical Data Model.
- ◆ You use standard vocabulary for coded elements where available (PHIN Vocabulary Services).
- ◆ You can appropriately map data as persisted by your application data base to an accurate representation within the PHIN Logical Model.

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Design Approach

1. **Learn the PHIN LDM Structure and Semantic.**
2. **Develop a preliminary application model based on business requirements.**
3. **Review and refine the application model to harmonize with the PHIN LDM.**

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Design Approach: Learn the PHIN LDM



Know the Model

**Study it. Read it. Think about it.
Study it some more**

Understand the Model

**Study it even more. Talk to your
colleagues about it. Explore
scenarios. Review it again.**

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Design Approach: Develop a Preliminary Model

- **Keep the PHIN LDM handy for reference.**
- **Focus on the application requirements.**
- **Develop a preliminary application model based on the requirements.**
- **Review and refine your Model in context of the PHIN LDM.**

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Design Approach: Refine Your Model



- **The PHIN LDM will inform, constrain, and refine your application model.**
 - ◆ **Naming of objects, entities, and attributes**
 - ◆ **Data typing consistency**
 - ◆ **Vocabulary and code sets**
 - ◆ **Relationship requirements and cardinalities**

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Harmonizing the Model

- If conflicts exist between the PHIN LDM and the application model:
 - ◆ Attempt to represent the data requirement in pure PHIN LDM format.
 - ◆ Is it accurate, clear, and complete?

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Extending and Enhancing

- **Local Extensions**
 - ◆ Requirements which are only relevant to the local implementation and therefore are beyond the scope of the PHIN LDM.

- **Model Enhancements**
 - ◆ Document any requirements that are in conflict with, or expand concepts present in the PHIN LDM, and how you modeled the supporting data.

Submit this to proper channels for consideration in the next revision of the PHIN LDM.

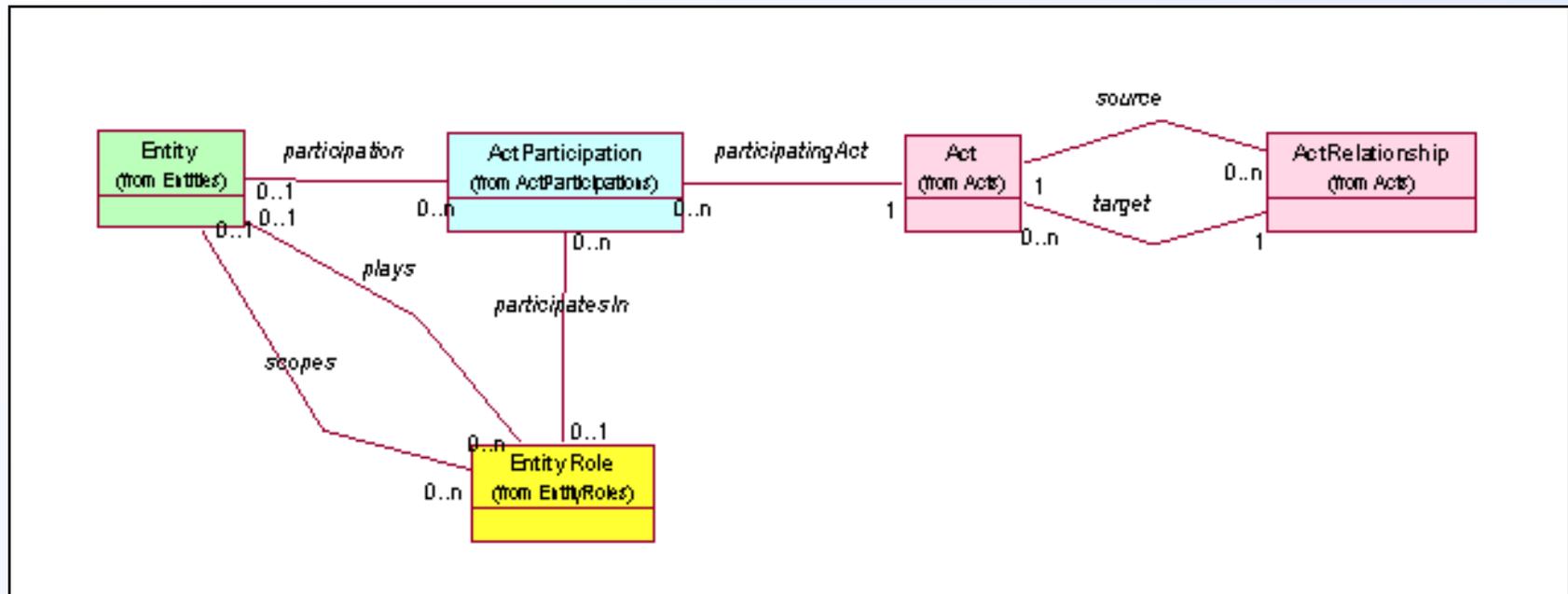
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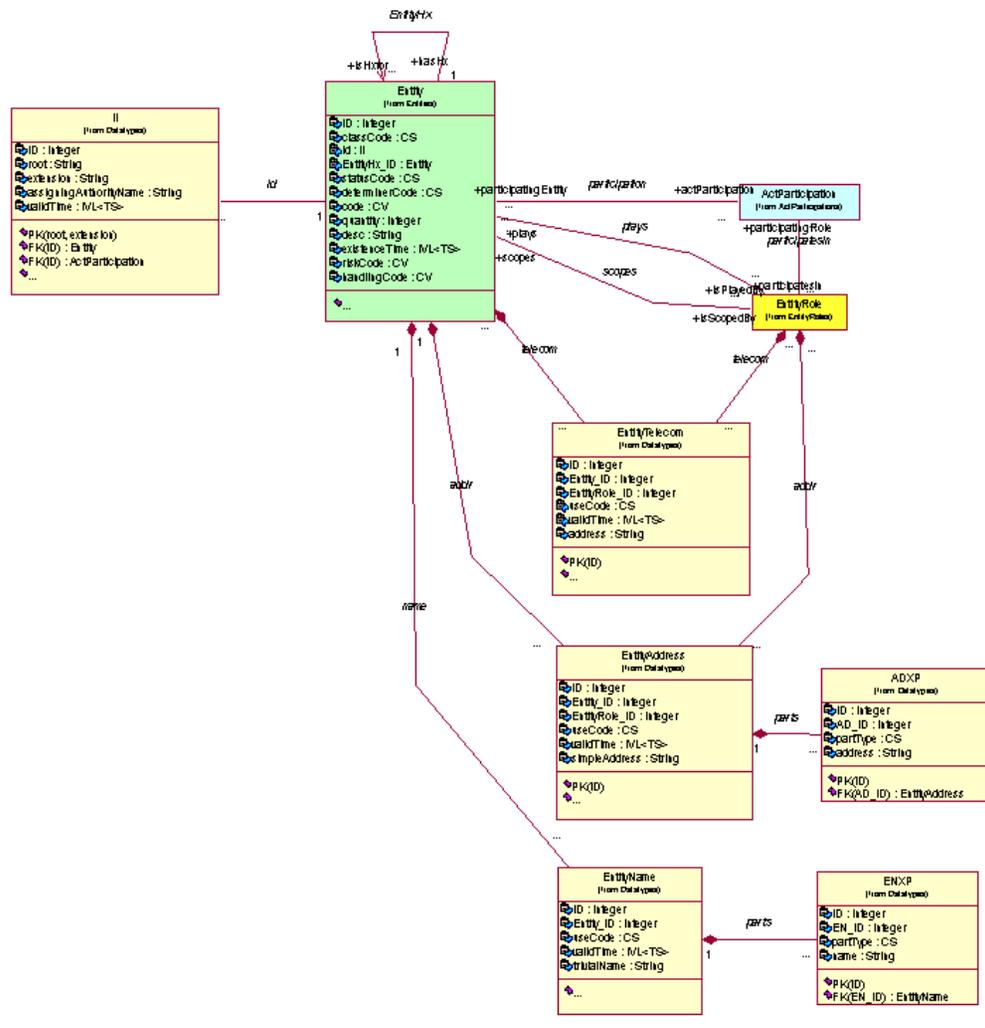
Examples

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PHIN LDM Backbone

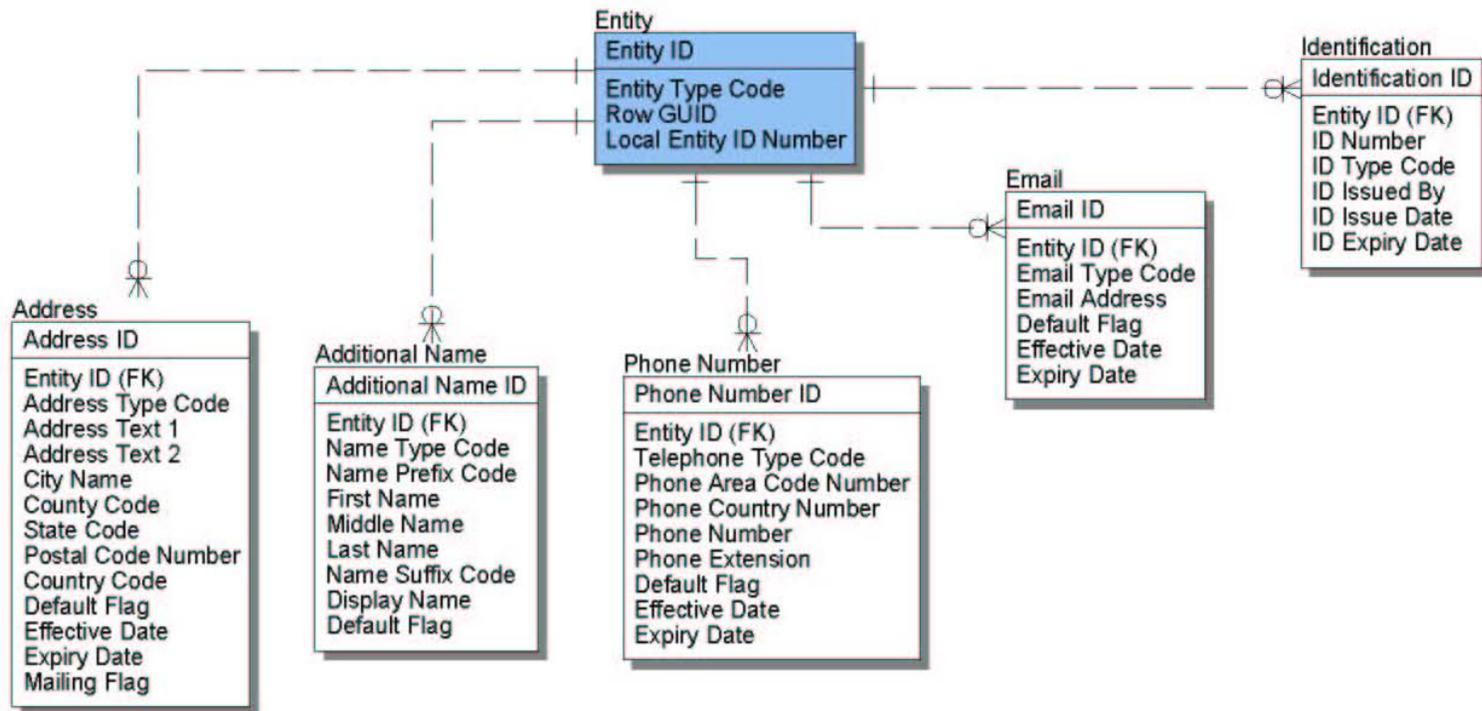


PHIN LDM Entity Model



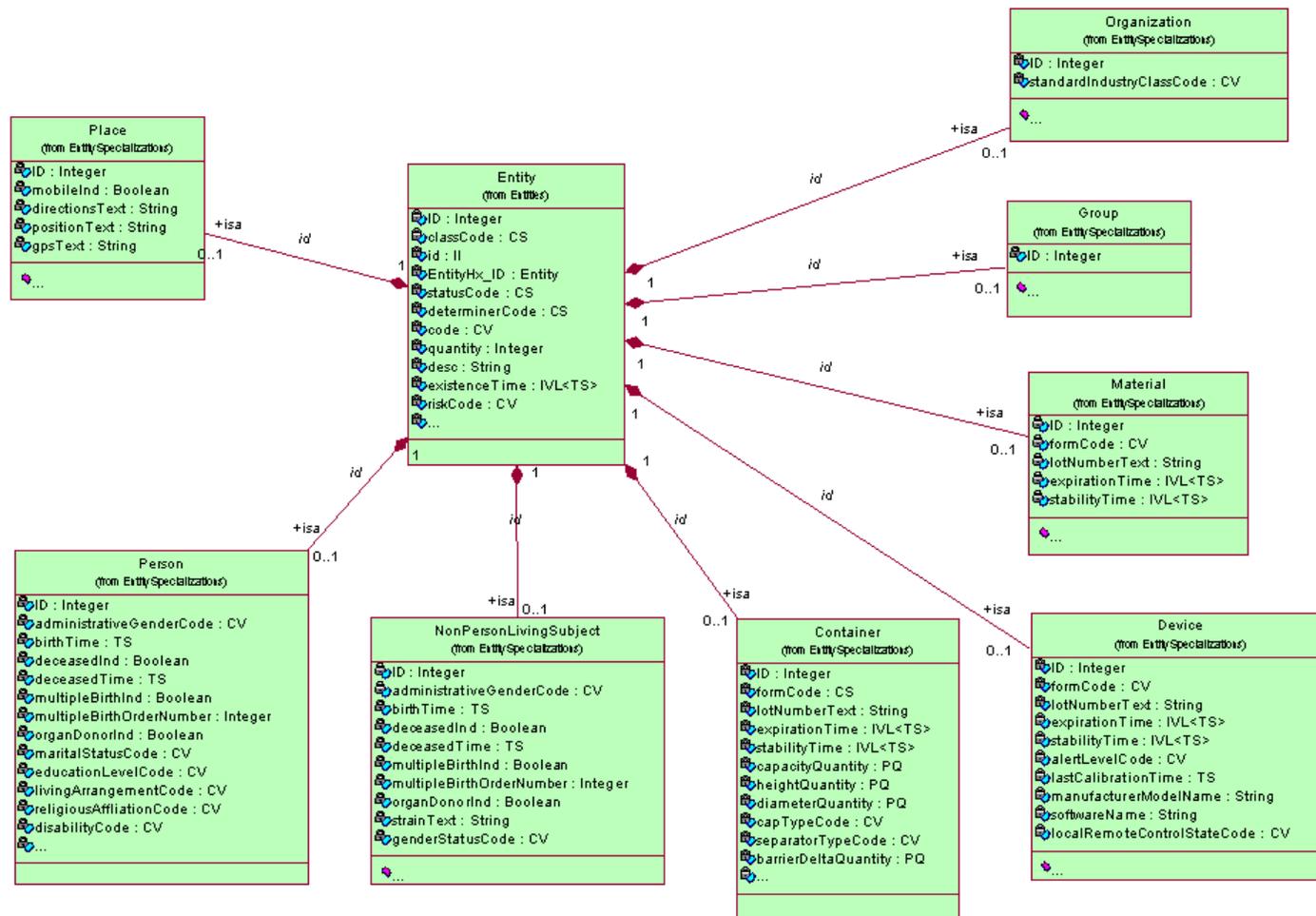
OMS 1.1

Subject Entity



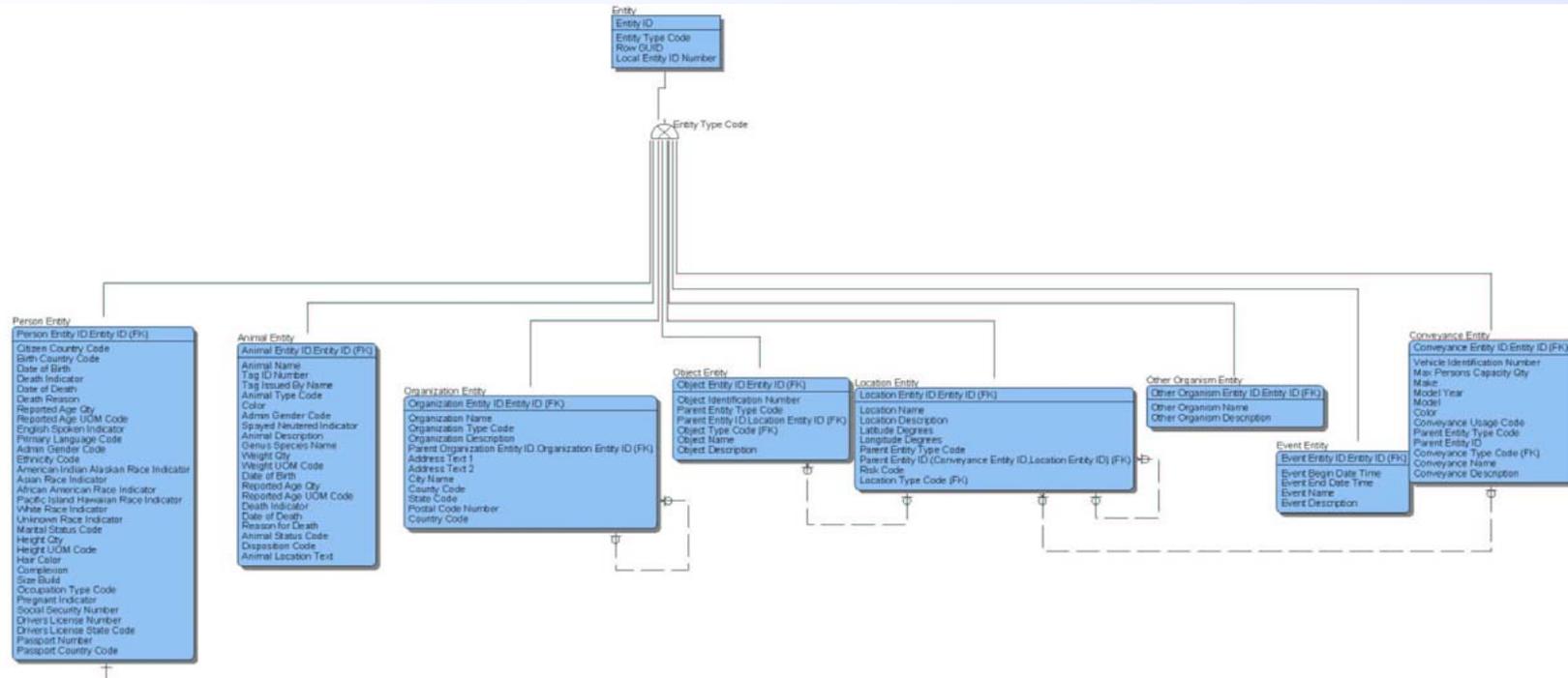
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Specializable Entities

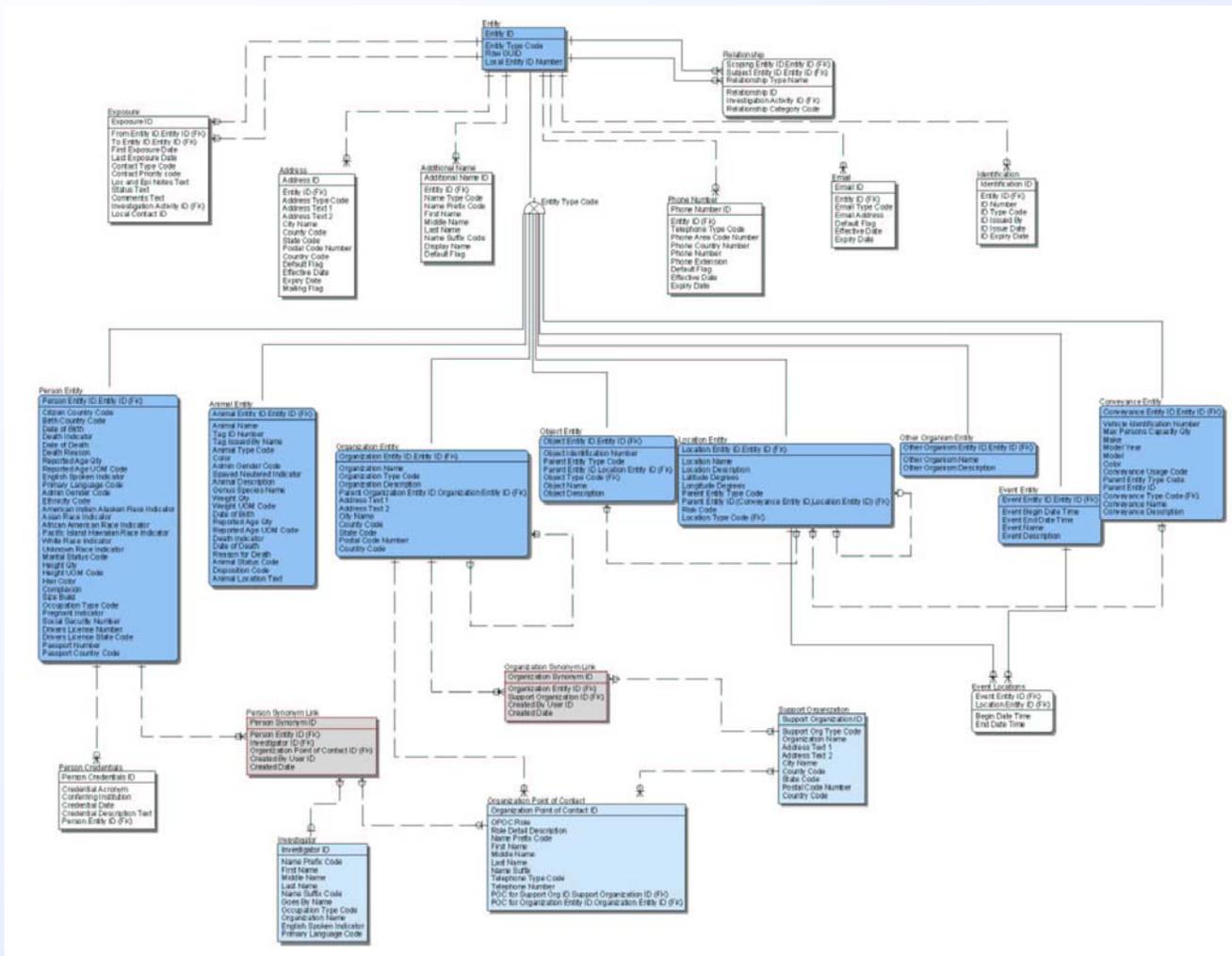


OMS 1.1

Entity Specializations

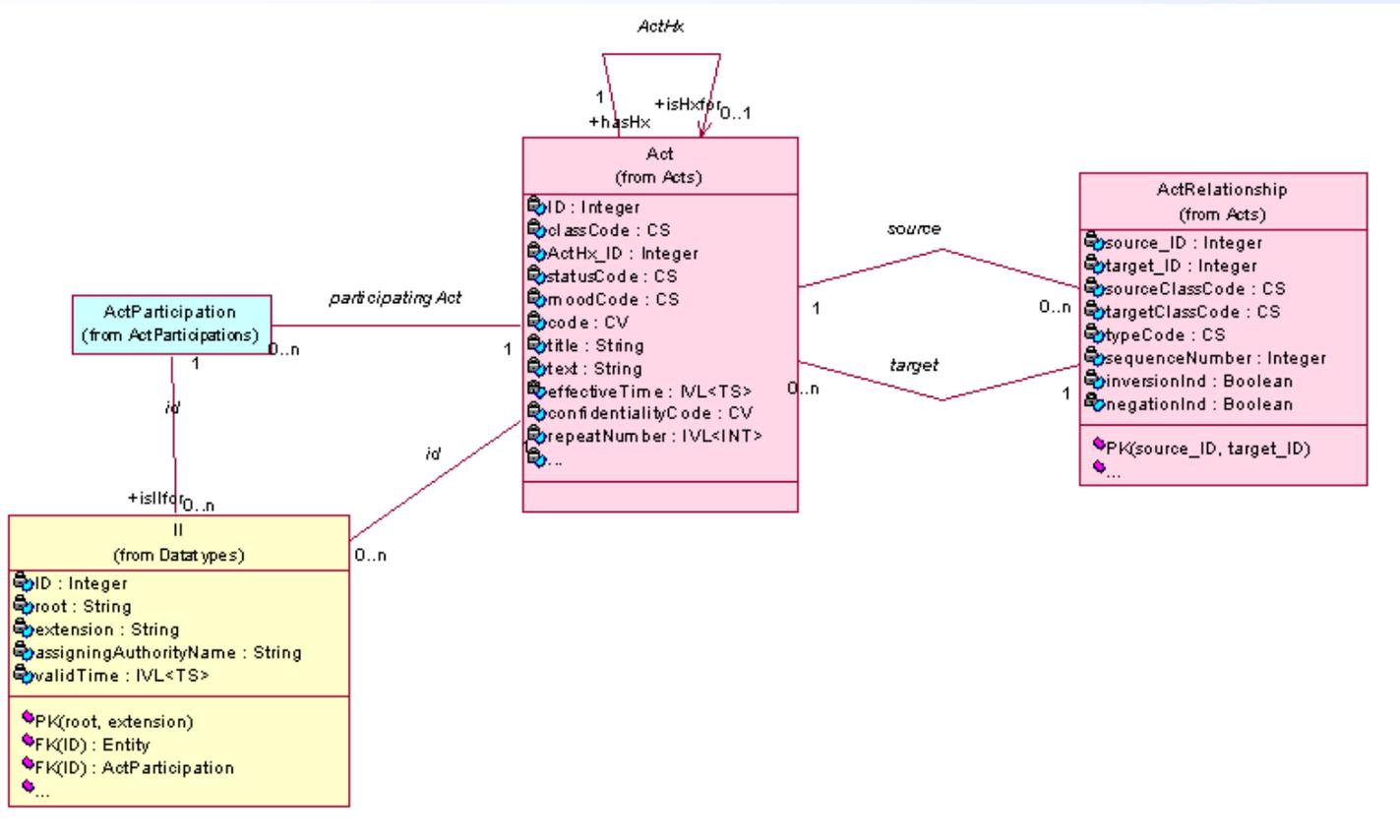


OMS 1.1 Entities



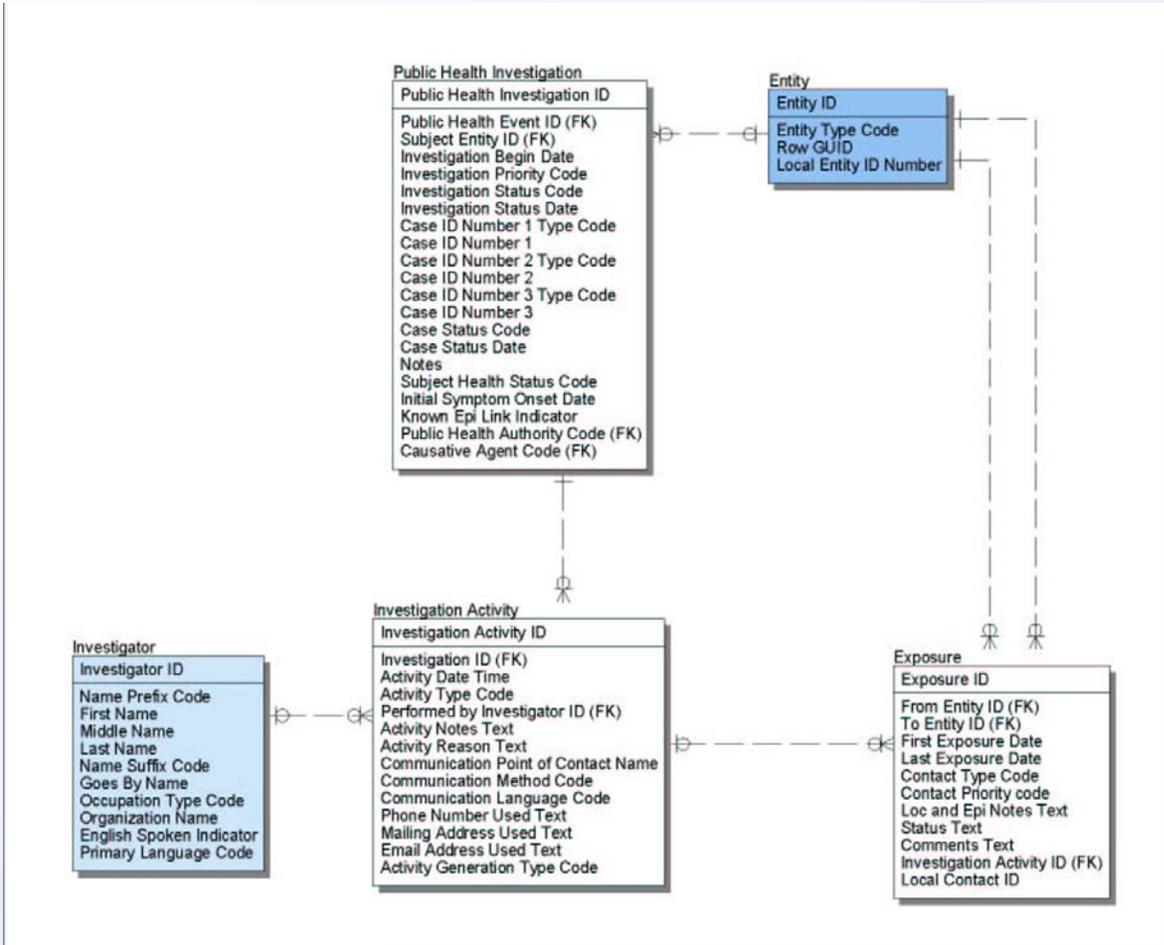
PHIN LDM

Act Model



OMS 1.1

Investigation Activities





Conclusions

- PHIN LDM represents the domain of Public Health information, especially for the purpose of facilitating information exchange.
- The PHIN LDM provides a “context for” and a “perspective on” the information needed to support information systems operating in the Public Health domain.
- The PHIN LDM provides a semantic standard for communication of data between systems operating in the Public Health domain.

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Questions?

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