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DISCON Specialists

EA Enabling Techniques

Data Structure Diagram (DSD)

Reason for Existence

The DSD is an Enterprise Wide Database definition represented in a structure Diagram.

- A normalised DSD can be generated from the ADD using the Synthesis Algorithm.
- The logical DSD are tables in 5th normal form, reflecting the benefits of normalisation. Changes can be made to the logical model depending on the target environment.
- The physical DSD represents the conceptual Data Base design. At this level you can de-normalise, to increase transaction speed, add more data or remove redundant data. Also known as an ER Diagram.

Data Relationship

Optional ◯ Mandatory |

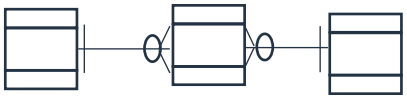
One to Many (1:M) - No Functional Dependency

One to Many (1:M) – Functional Dependent

Zero or More to One / Subset

One to One (1:1)

Many to Many (M:M)



Notation

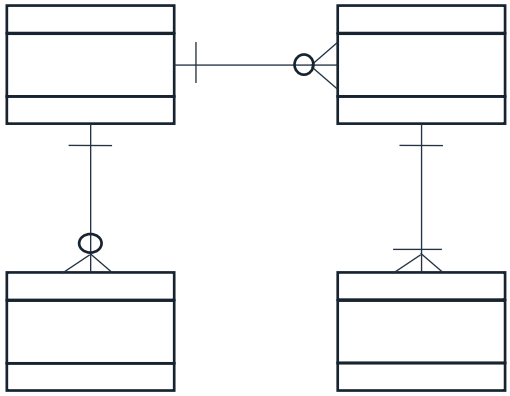
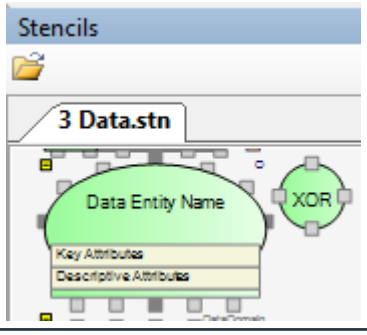


Table (Logical or Physical data structure)

MetaBuilder Steps

1. Compile an Attribute Dependency Diagram (ADD) in Meta Builder.
2. Validate the Diagram (Tools -> Validate Diagram -> ADD).
3. Convert ADD to DSD by selecting DSD in Possible actions at the bottom right corner of MetaBuilder and then press GO.

1



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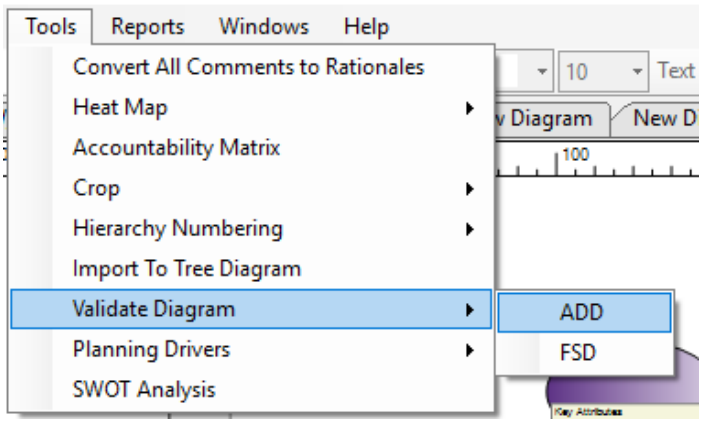

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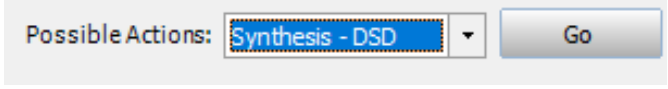
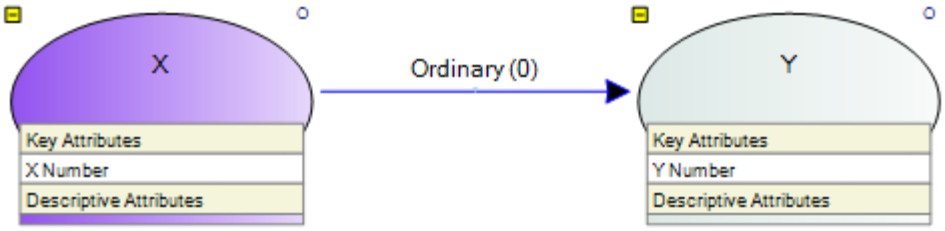


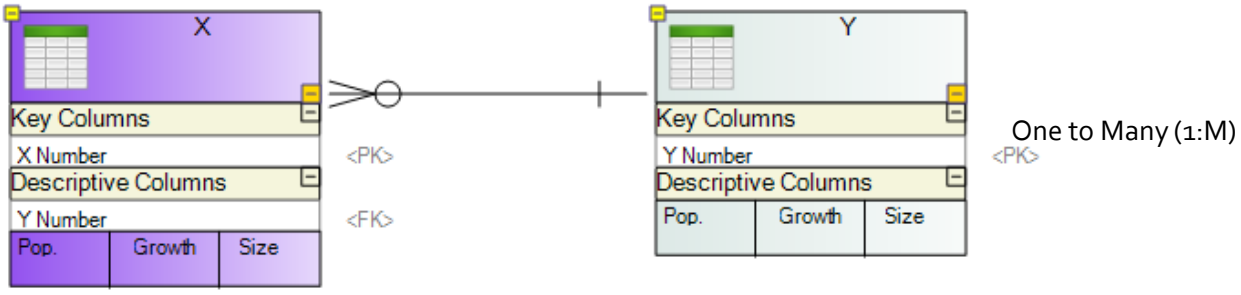
MetaBuilder Examples – ADD vs. DSD

Ordinary Relationship

Attribute Dependency Diagram (ADD)

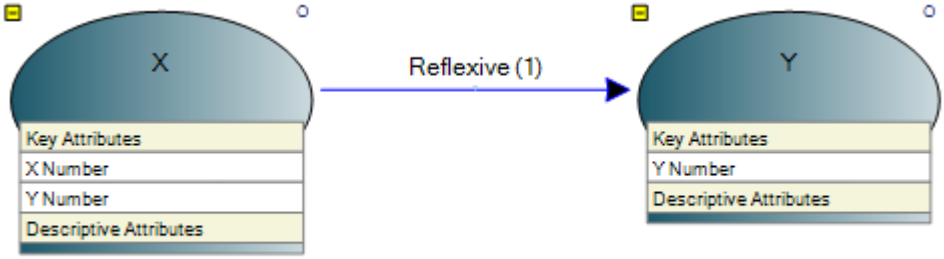


Data Structure Diagram (DSD)

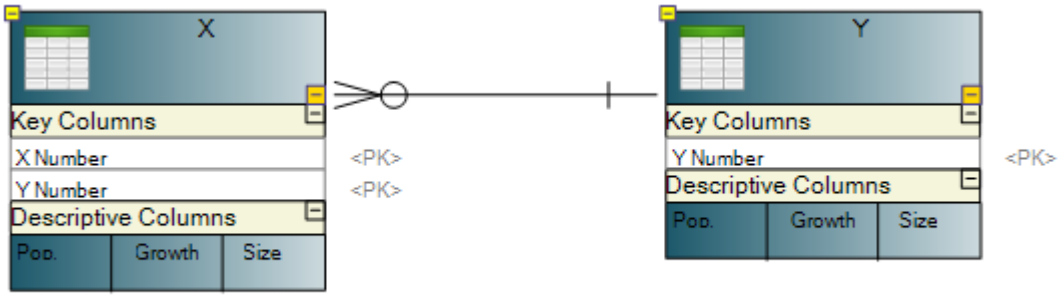


Reflexive Relationship

Attribute Dependency Diagram (ADD)



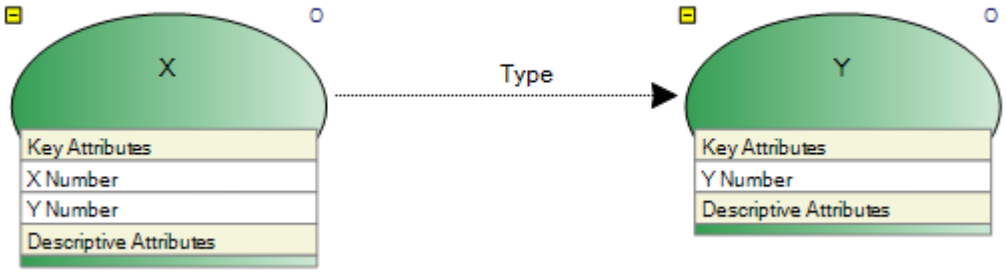
Data Structure Diagram (DSD)



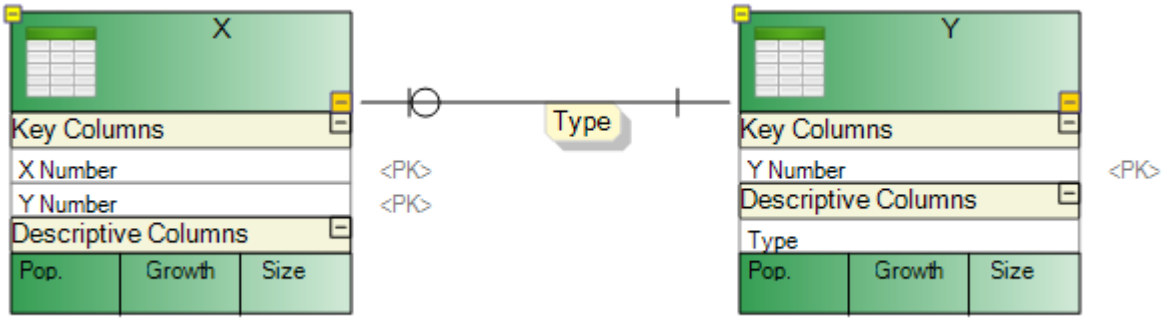
MetaBuilder Examples – ADD vs. DSD

Subset Relationship

Attribute Dependency Diagram (ADD)



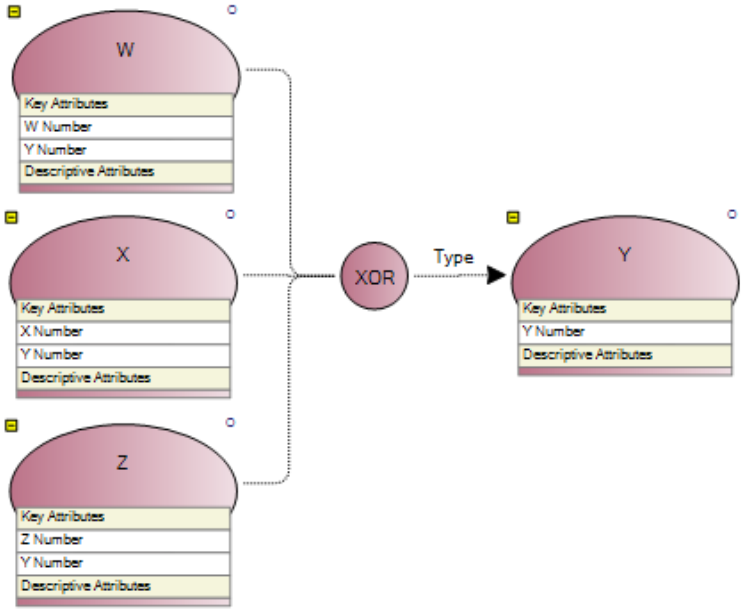
Data Structure Diagram (DSD)



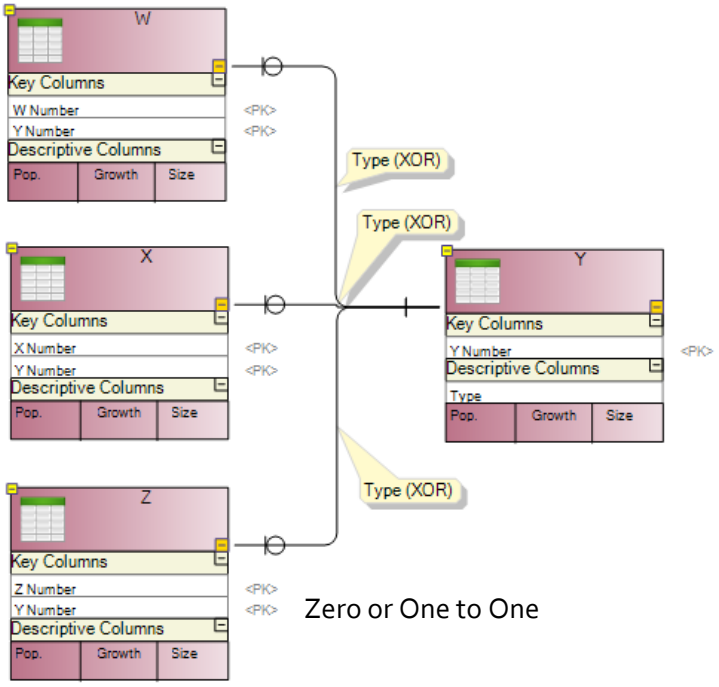
Zero or One to One

Subset Relationship

Attribute Dependency Diagram (ADD)



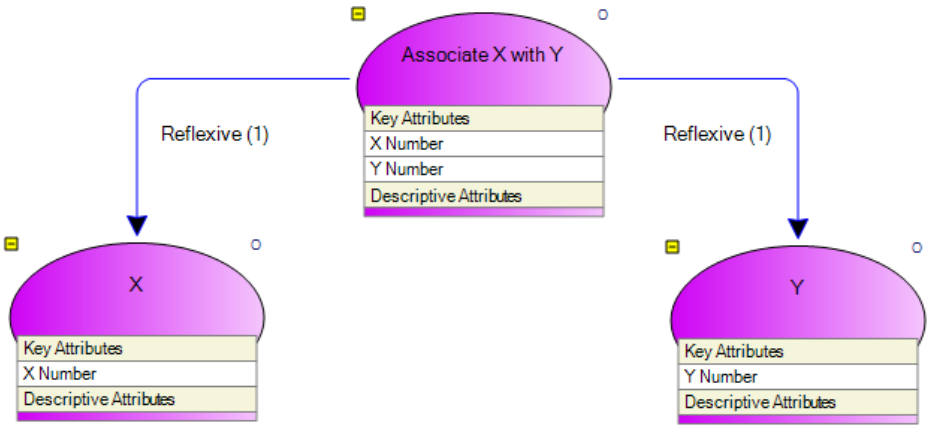
Data Structure Diagram (DSD)



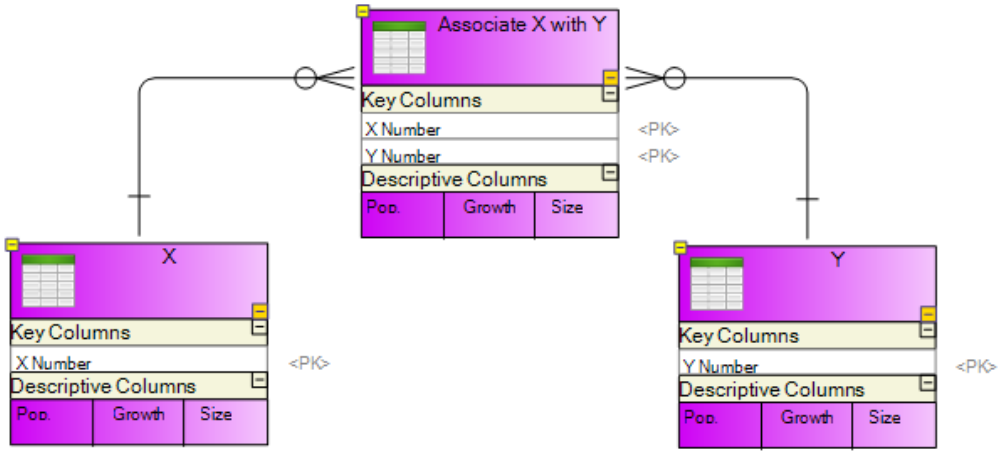
Zero or One to One

Many to Many association

Attribute Dependency Diagram (ADD)



Data Structure Diagram (DSD)



Many to Many (M:M)