



# ConceptDB

A Software System Used to  
Establish a Link Between  
PubMed/MEDLINE and GO

Lonny Montoya

01/15/04

NATIONAL CENTER FOR GENOME RESOURCES



# ConceptDB Project

NCGR – NM Tech Collaboration

NM Tech (Complex Systems)

Rich Colbaugh, Kristin Glass

NCGR (Biological Databases, Analysis Tools)

Geert Wenes, Vickie Hall,

Todd Peterson, Lonny Montoya

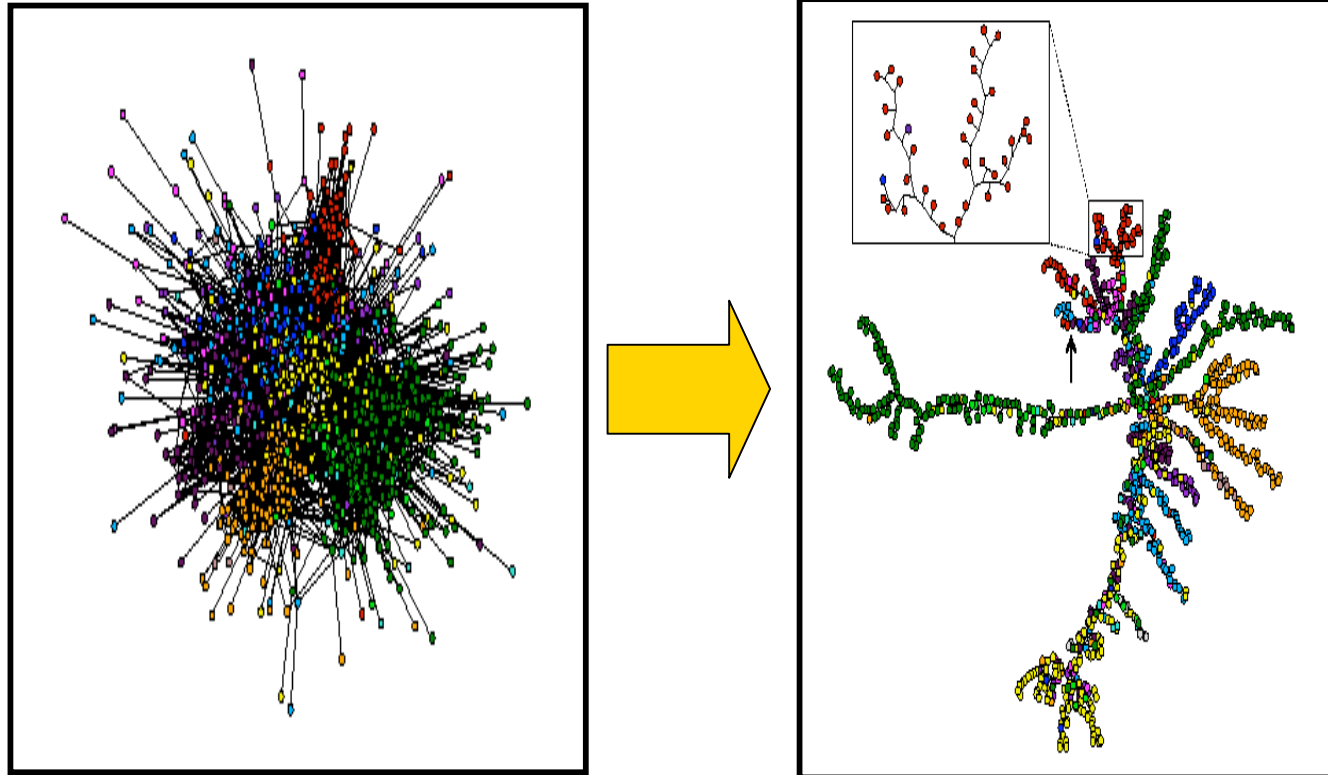


# NM Tech - Complex Systems

- Result of Incremental Evolution in System Configuration
- Possess Considerable System Structure
- Allow for the Extraction of Deep Quantitative Information Using Limited Observations



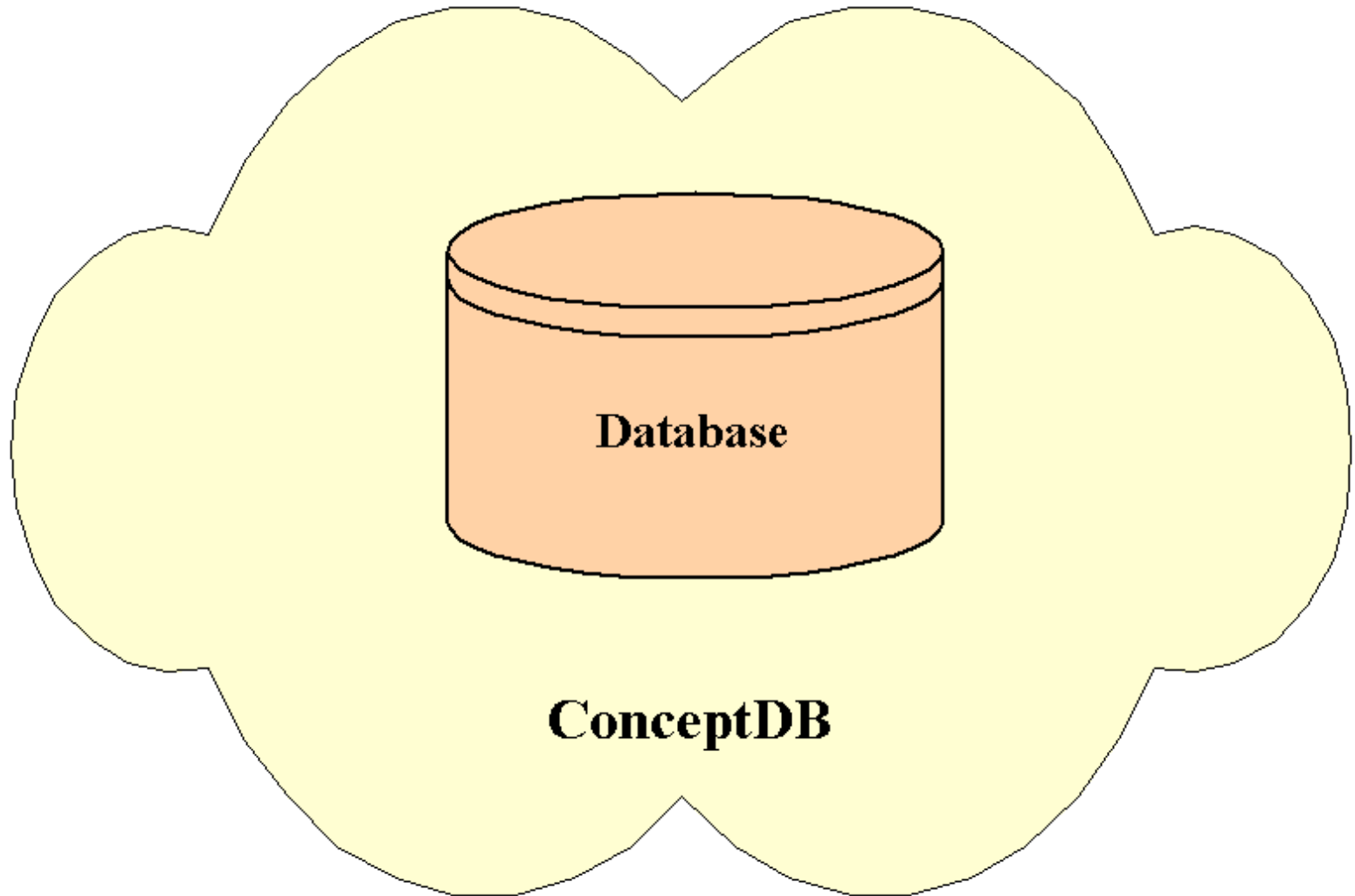
# NM Tech - Social Networks





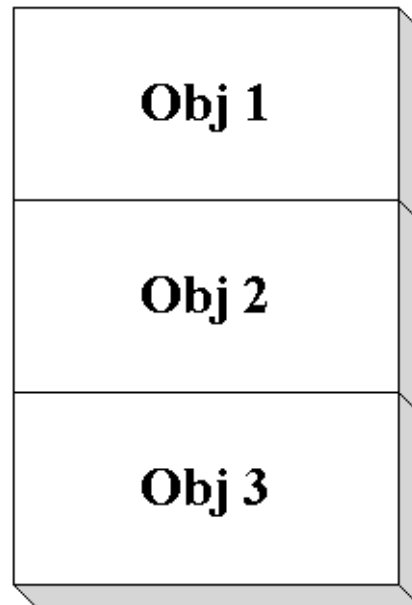


# ConceptDB - Database



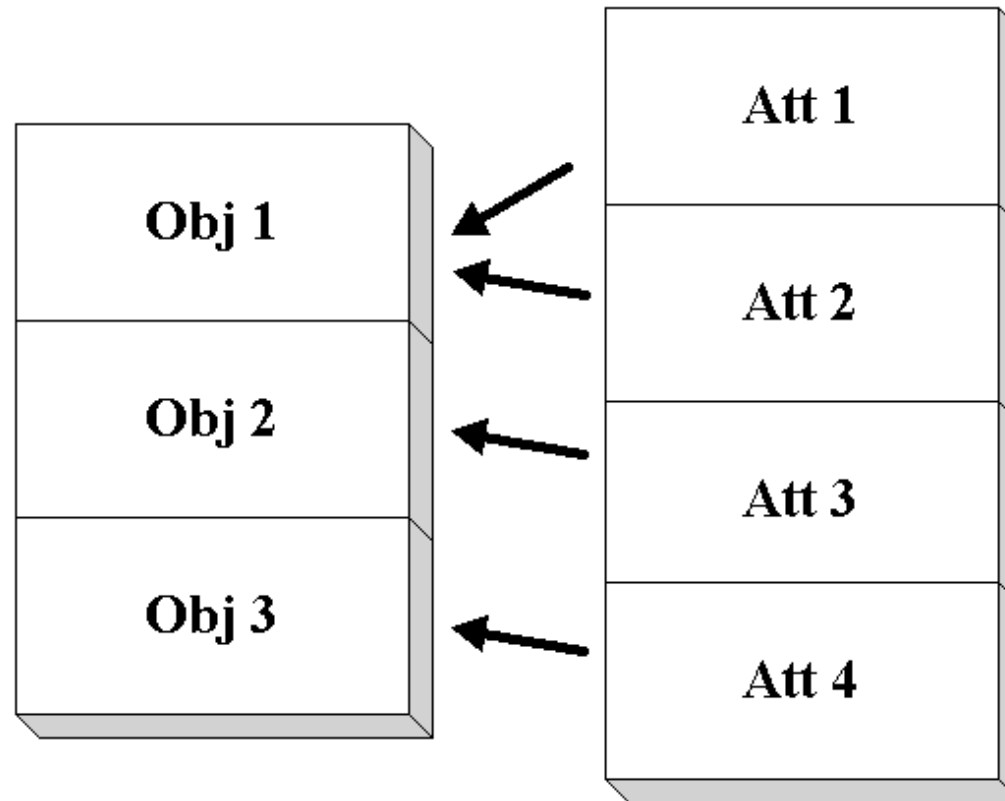


# ConceptDB - Database



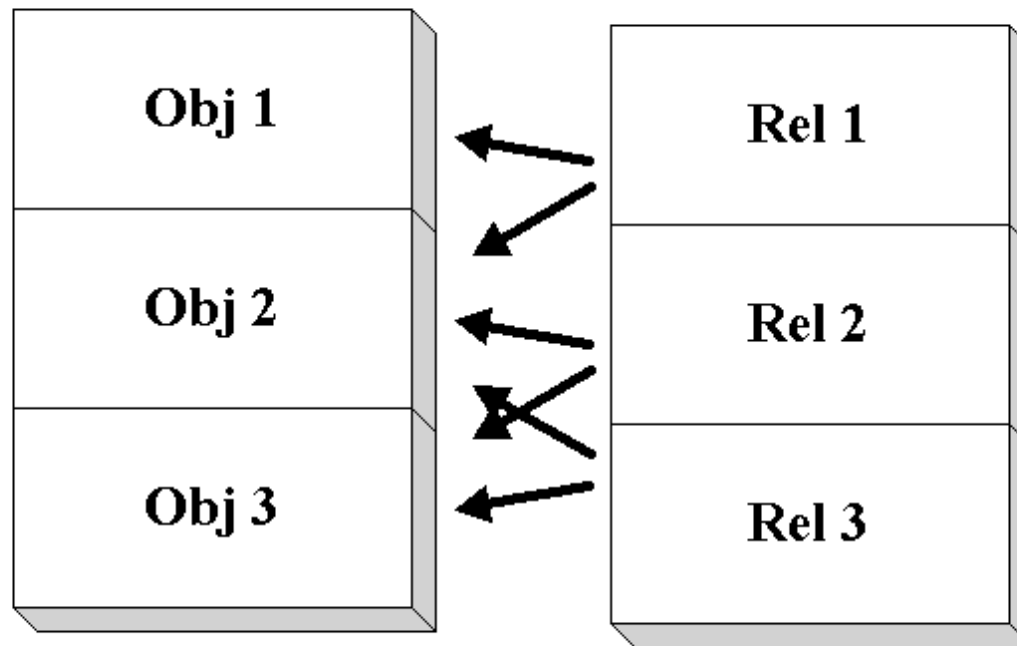


# ConceptDB - Database



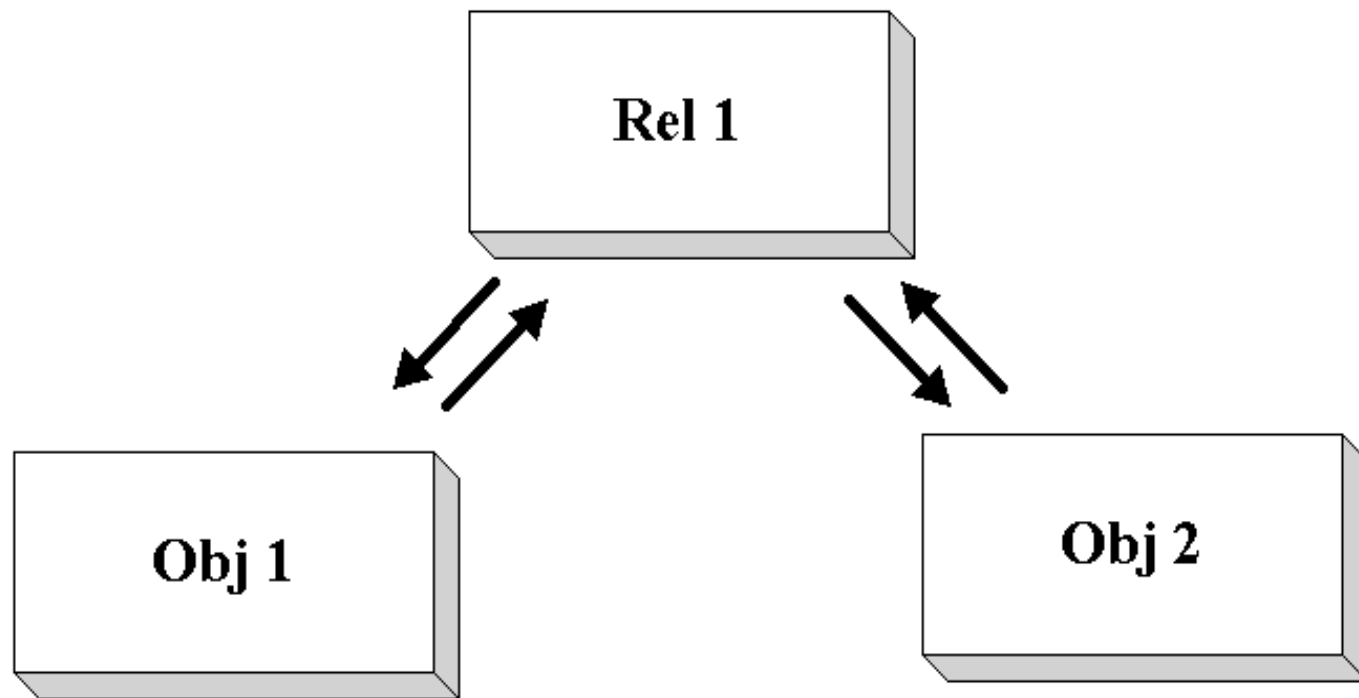


# ConceptDB - Database



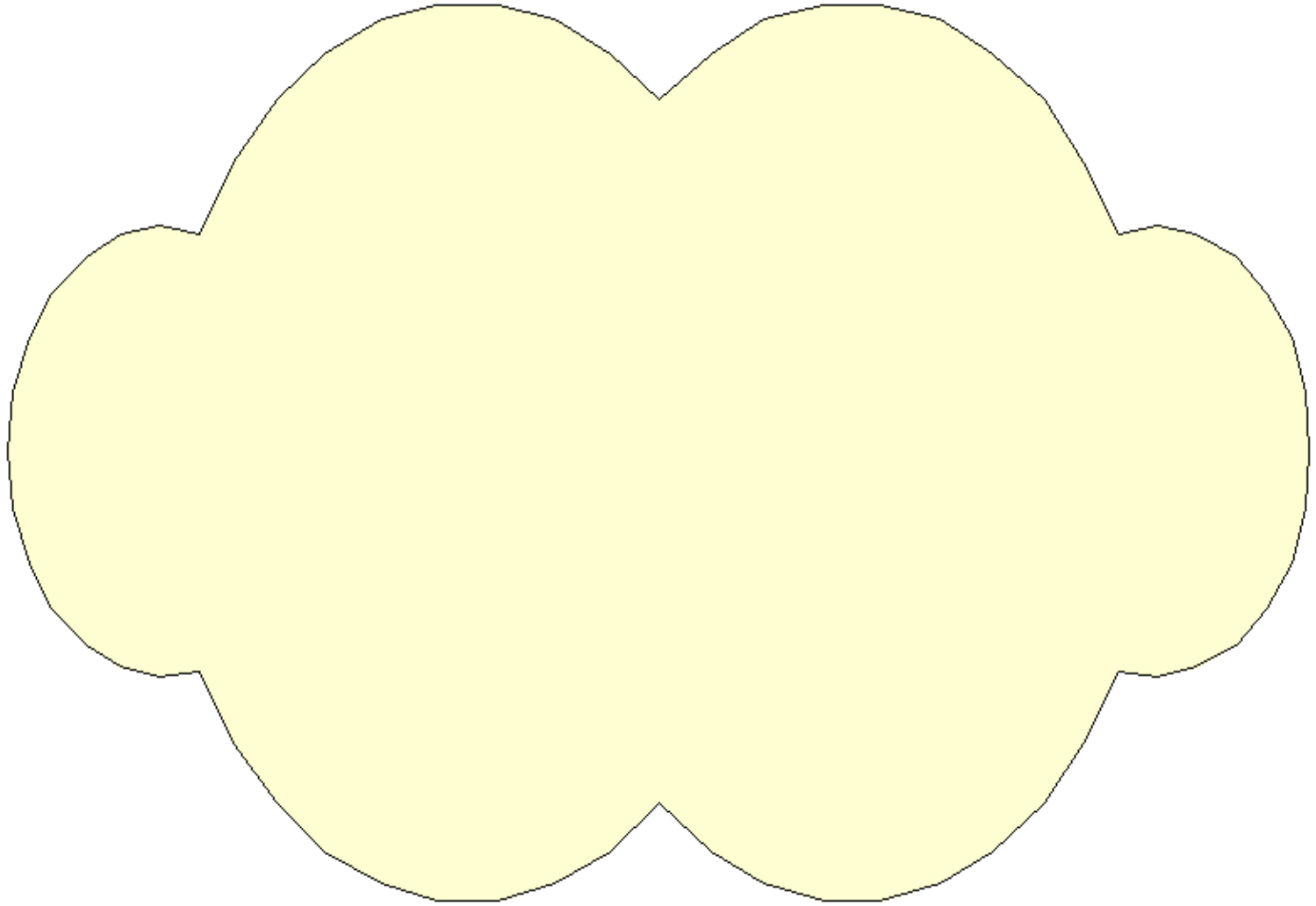


# ConceptDB – Graph Query



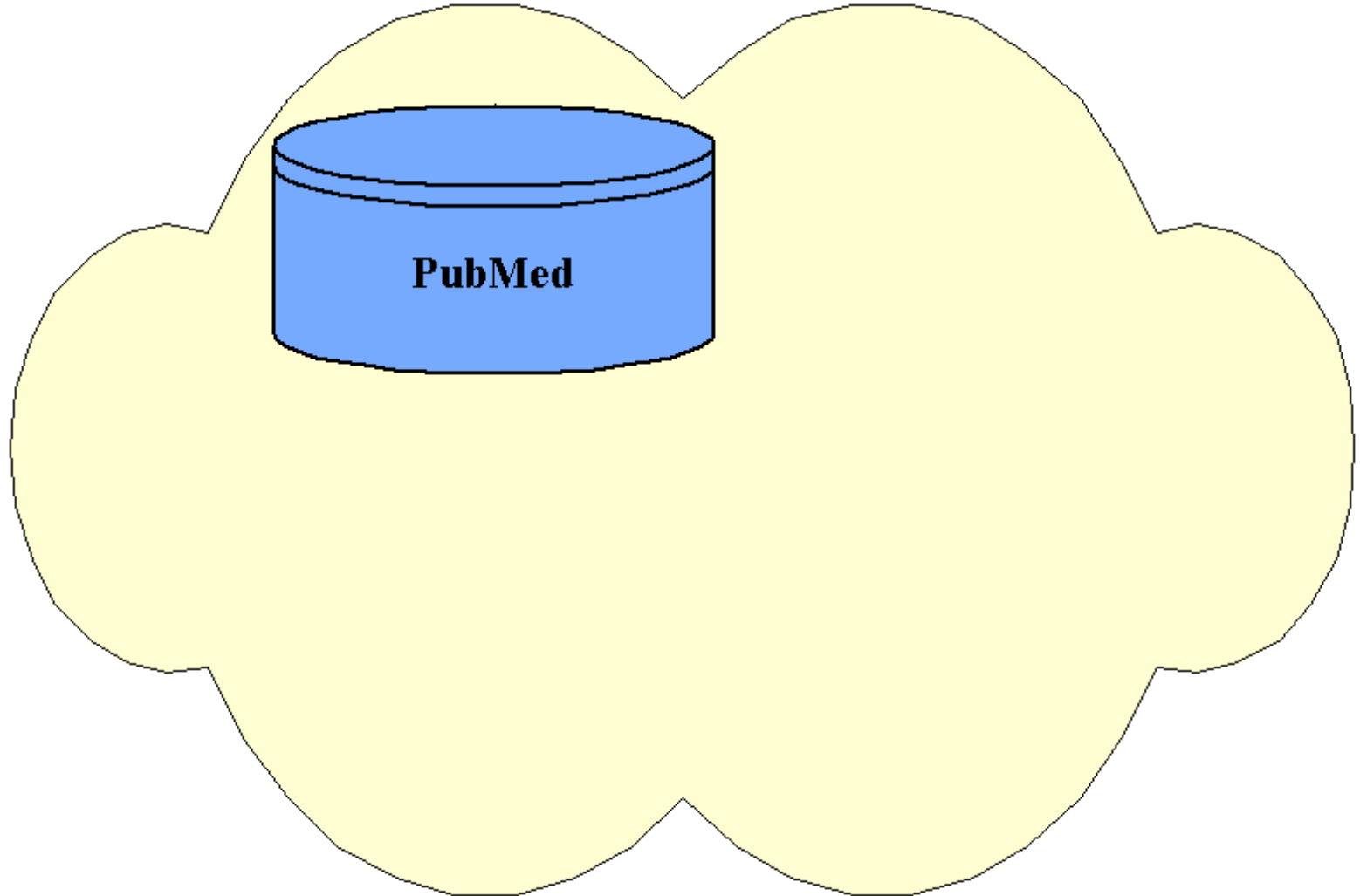


# ConceptDB



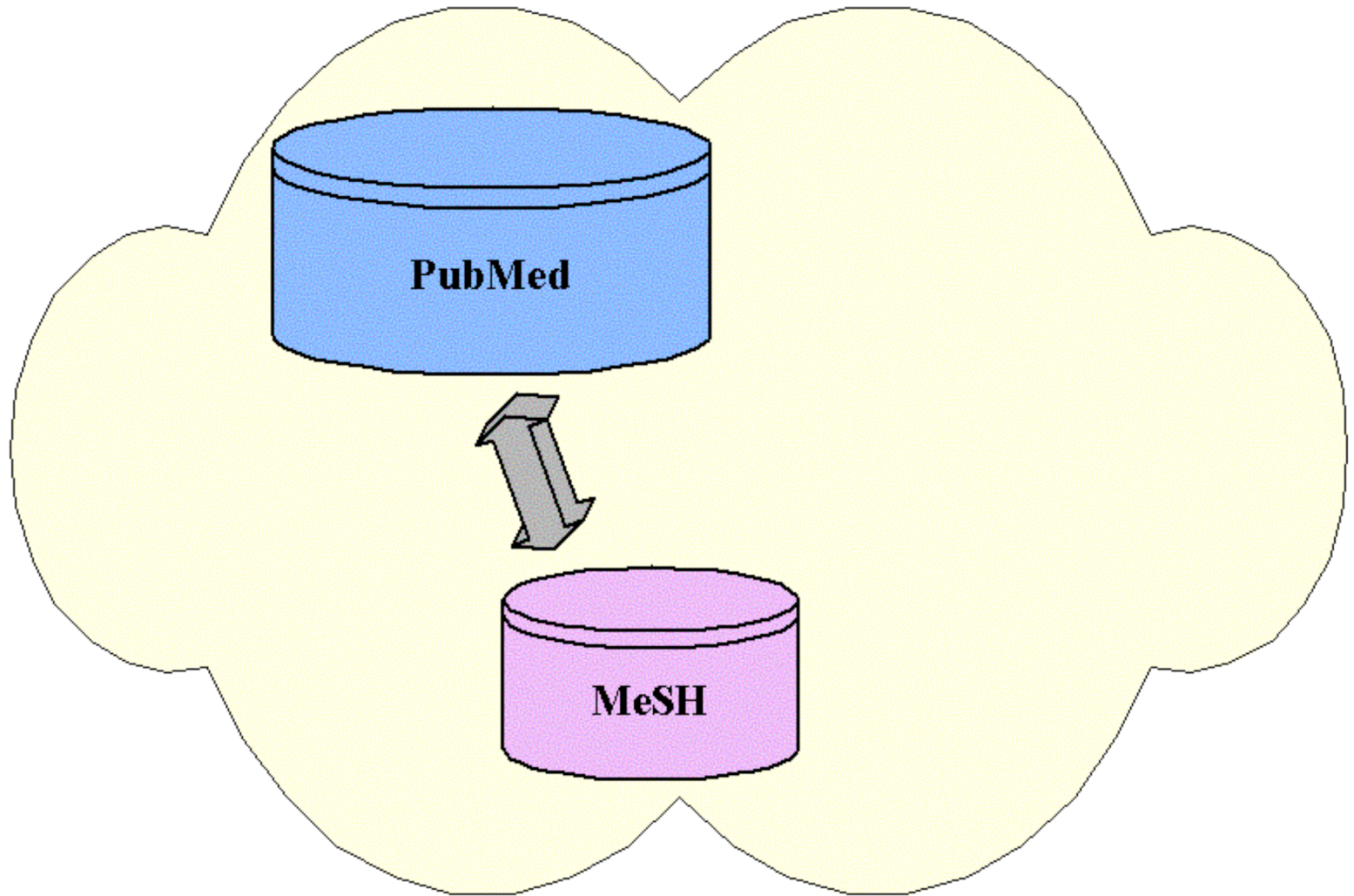


# ConceptDB





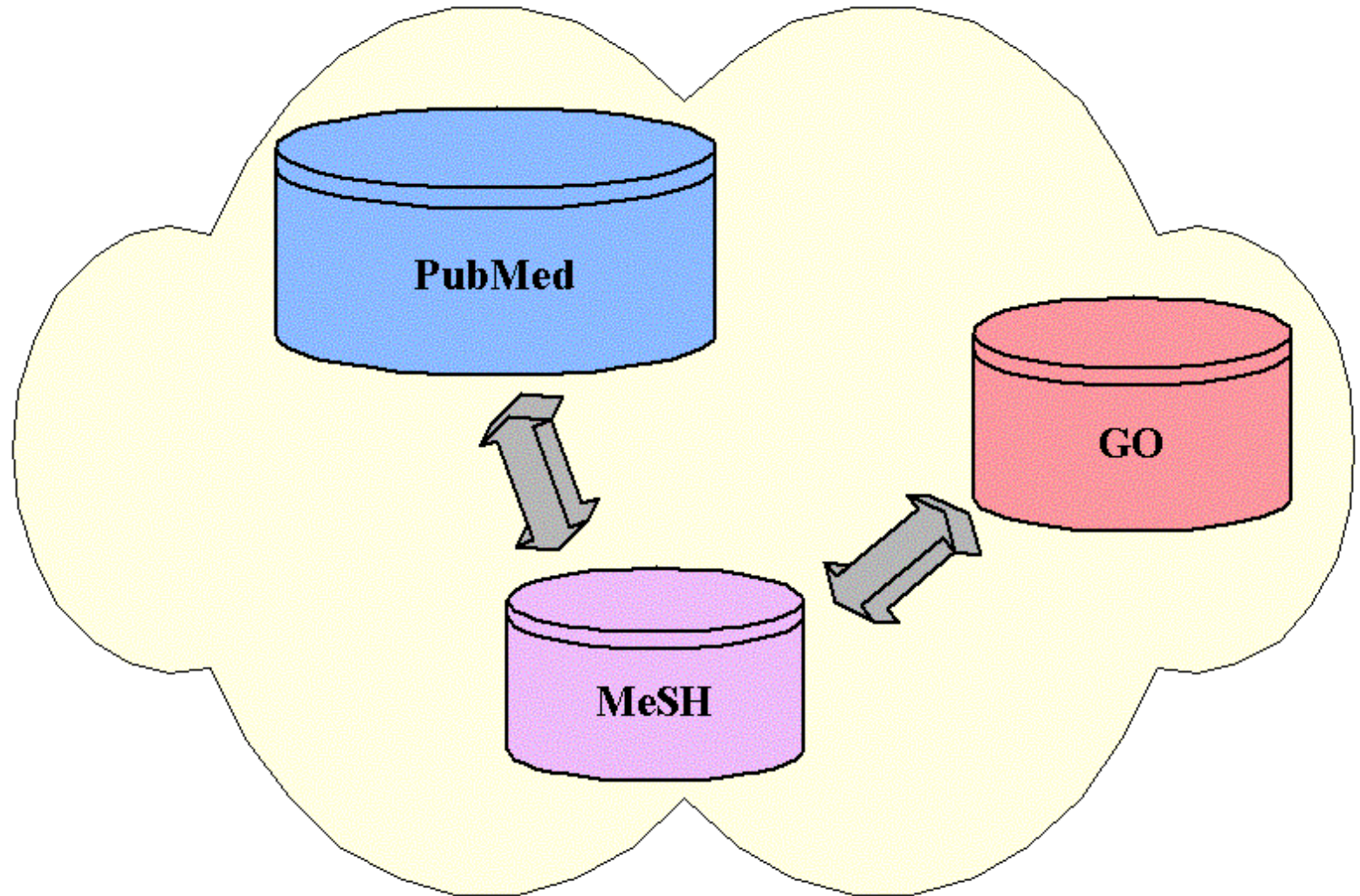
# ConceptDB







# ConceptDB





Concept Builder: Query 1

Find Citation

Having

Attribute		Value
<input type="checkbox"/> Display Name	=	
<input type="checkbox"/> Synonym	=	
<input type="checkbox"/> MeSH Term	=	
<input type="checkbox"/> GO Term	=	
<input type="checkbox"/> Gene Product	=	
<input type="checkbox"/> Title	=	
<input type="checkbox"/> Journal	=	
<input type="checkbox"/> Authors	=	
<input type="checkbox"/> Abstract	=	
<input type="checkbox"/> Date of Publication	=	

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Concept Builder: Query 1 - Gene Product

### Gene Product

**Get All** GO Terms mapped to the selected Gene Products

2 Rows Retrieved

Gene Product
Npdc1
PDC1

Print    Export    Detail    Add    Graph

Restrict Result List with The Following

Attribute	Operator	Value
<input type="checkbox"/> Display Name	=	
<input type="checkbox"/> Synonym	=	
<input type="checkbox"/> GO Term	=	
<input type="checkbox"/> MeSH Term	=	
<input type="checkbox"/> Citation	=	

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Concept Builder: Query 1 - Gene Product

### Gene Product

**Get All** GO Terms mapped to the selected Gene Products

2 Rows Ret

- GO Terms mapped to the selected Gene Products
- MeSH Terms mapped to the selected Gene Products
- Citations mapped to the selected Gene Products

Npdc1  
PDC1

Print    Export    Detail    Add    Graph

Restrict Result List with The Following

Attribute	Operator	Value
<input type="checkbox"/> Display Name	=	
<input type="checkbox"/> Synonym	=	
<input type="checkbox"/> GO Term	=	
<input type="checkbox"/> MeSH Term	=	
<input type="checkbox"/> Citation	=	

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Concept Builder: Query 2 - Citation

### Citation

**Get All** MeSH Terms referenced by the selected Citations

366 Rows Retrieved

Citation
Medline Id: 20025485
Medline Id: 20085045
Medline Id: 20117696
Medline Id: 20123180
Medline Id: 20219133
Medline Id: 20259295
Medline Id: 20268031
Medline Id: 20296275

Print    Export    Detail    Add    Graph

Restrict Result List with The Following

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<input type="checkbox"/> GO Term	=	
<input type="checkbox"/> Gene Product	=	
<input type="checkbox"/> Title	=	
<input type="checkbox"/> Journal	=	
<input type="checkbox"/> Authors	=	
<input type="checkbox"/> Abstract	=	

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Concept Builder: Query 2 - Citation

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Medline Id: 20025485
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Medline Id: 20219133
Medline Id: 20259295
Medline Id: 20268031
Medline Id: 20296275

Print Export Detail Add Graph

Restrict Result List with The Following

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<input type="checkbox"/> GO Term	=	
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<input type="checkbox"/> Title	=	
<input type="checkbox"/> Journal	=	
<input type="checkbox"/> Authors	=	
<input checked="" type="checkbox"/> Abstract	like	PDC1
<input type="checkbox"/> Date of Publication	=	

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Concept Builder: Query 2 - Citation

### Citation

Get All MeSH Terms referenced by the selected Citations

34 Rows Retrieved

Citation
Medline Id: 20219133
Medline Id: 20268031
Medline Id: 20378610
Medline Id: 21579308
Medline Id: 84067485
Medline Id: 87066770
Medline Id: 89106269
Medline Id: 89136054

Print Export Detail Add Graph

Restrict Result List with The Following

Attribute	Operator	Value
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<input type="checkbox"/> GO Term	=	
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<input type="checkbox"/> Title	=	
<input type="checkbox"/> Journal	=	
<input type="checkbox"/> Authors	=	
<input type="checkbox"/> Abstract	=	
<input type="checkbox"/> Date of Publication	=	

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**Concept Details**

**Medline Id: 75207013**

**Title**  
Aerobic adaptation in yeast, IV. Alterations in enzyme synthesis during anaerobic-aerobic transitions in exponentially growing cultures.

**Journal**  
Can J Microbiol

**Authors**  
Ball A J, Bruver R M, Tustanoff E R

**Abstract**  
As a corollary to the metabolite data obtained from yeast cultures undergoing an exponential anaerobic-aerobic phase transition, levels of various glycolytic and citric acid cycle enzyme activities have been monitored in these cells. The relation of the changes in these enzyme activities i

**Date of Publication**  
1975-01-01 00:00:00.0

**Synonym**  
Medline Id: 75207013

**Previous** **Next** **Close** **Help**





▼ Concept Builder: Query 1 - GO Term

### GO Term

**Get All** Citations referenced by the selected GO Terms ▼

4 Rows Retrieved

GO Term
ethanol fermentation
integral to membrane
pyruvate decarboxylase activity
pyruvate metabolism

Print Export Detail Add Graph

Restrict Result List with The Following

Attribute	Operator	Value
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<input type="checkbox"/> Synonym	= ▼	
<input type="checkbox"/> Citation	= ▼	
<input type="checkbox"/> MeSH Term	= ▼	
<input type="checkbox"/> Gene Product	= ▼	
<input type="checkbox"/> GO Accession	= ▼	
<input type="checkbox"/> GO Url	= ▼	

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Concept Builder: Query 1 - GO Term

### GO Term

**Get All** Gene Products mapped to the selected GO Terms

4 Rows Ret

- ethanol ferm
- integral to m
- pyruvate dec
- pyruvate met

- Related (Broader) GO Terms
- Related (Narrower) GO Terms
- Related (Other) GO Terms
- Parents of the selected GO Terms
- Children of the selected GO Terms
- Siblings of the selected GO Terms
- Qualifiers of the selected GO Terms
- Gene Products mapped to the selected GO Terms

Print Export Detail Add Graph

Restrict Result List with The Following

Attribute	Operator	Value
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<input type="checkbox"/> Citation	=	
<input type="checkbox"/> MeSH Term	=	
<input type="checkbox"/> Gene Product	=	
<input type="checkbox"/> GO Accession	=	
<input type="checkbox"/> GO Url	=	

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Concept Builder: Query 1 - Gene Product

### Gene Product

Get All GO Terms mapped to the selected Gene Products

29 Rows Retrieved

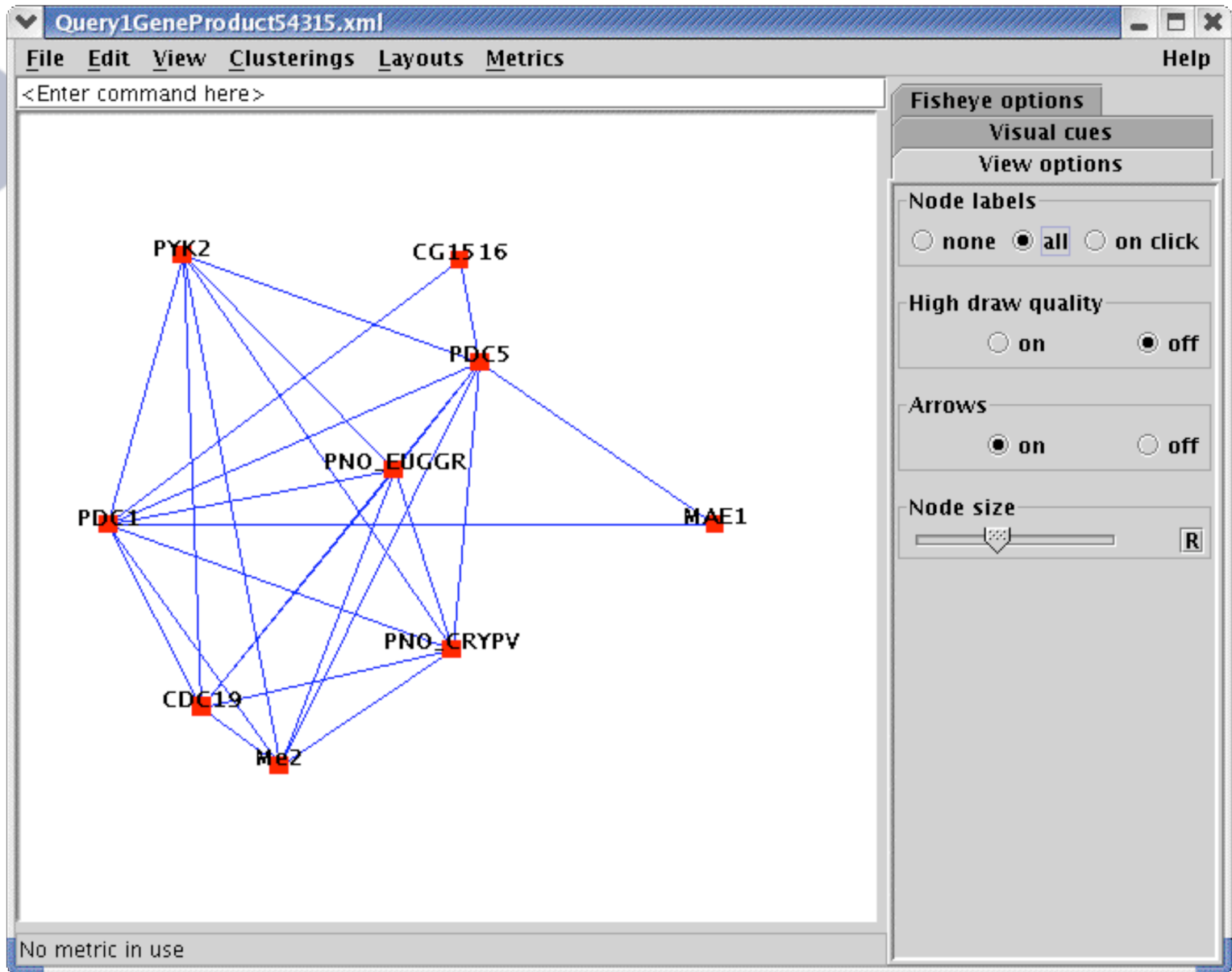
Gene Product
CDC19
CG10932
CG11876
CG12151
CG1516
CG31075
CG3752
CG7010

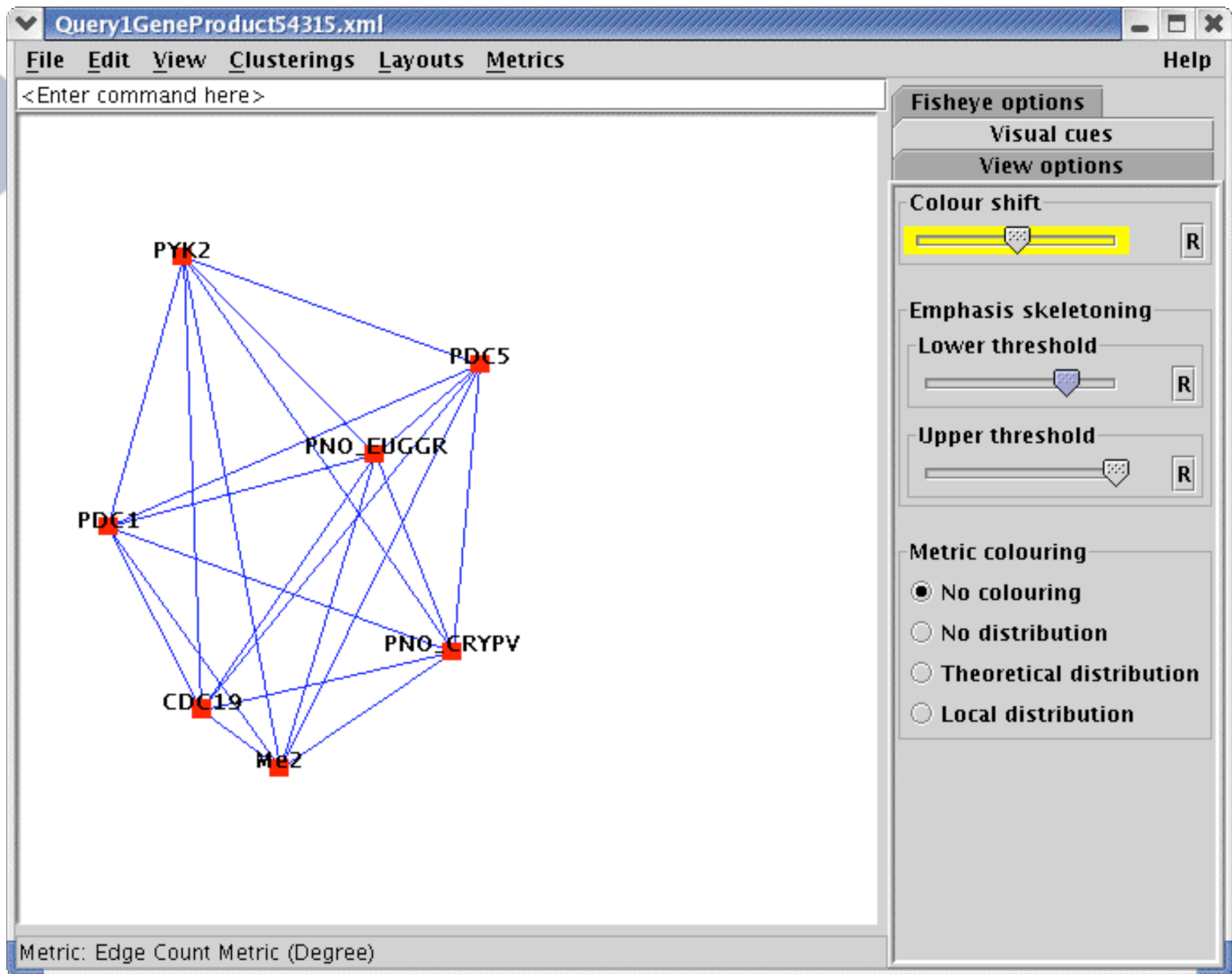
Print    Export    Detail    Add    Graph

Restrict Result List with The Following

Attribute	Operator	Value
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<input type="checkbox"/> Synonym	=	
<input type="checkbox"/> GO Term	=	
<input type="checkbox"/> MeSH Term	=	
<input type="checkbox"/> Citation	=	

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# Questions ?

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[lxm@ncgr.org](mailto:lxm@ncgr.org)