

The Metadata Lifeline



Part II

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June 14, 2007

Today's Topics

Part I

- Metadata's Lifeline
 - Within IT
 - Outside of IT
- Today's Metadata Roadblock
- Our Current Metadata Environment
 - Creation
 - Deployment
 - Usage
 - Maintenance
- The Good News and the Bad News

Part II

- Metadata Rebirth
 - Revised Practices
 - REAL Reuse
 - SOA, etc.
 - Getting There



THIS PART

NOT CONFUSED ANYMORE???

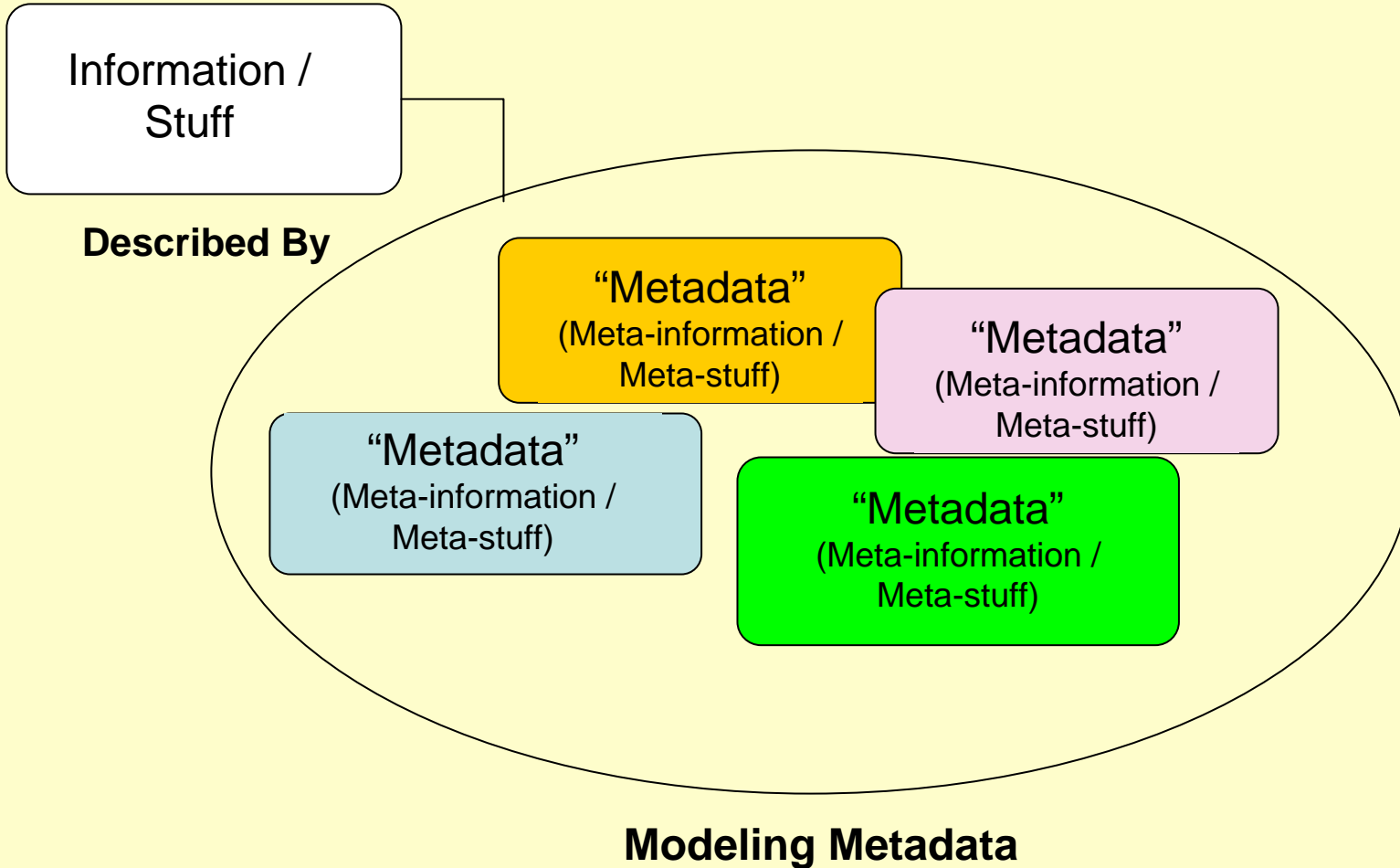
DATA	METADATA	META-METADATA
<p>What we use metadata for, the actual values of the things that we need to clarify</p> <p>131-00-8000</p> <ul style="list-style-type: none"> •Social Security No. 07979 •Zip Code Albany •City? •Capital? •Client Name? •All of the Above? <p>Customer Sales Master</p> <ul style="list-style-type: none"> •Filename? •Source? •Database? 	<p>What we need to clarify/describe the data. The same value can often be metadata or data depending upon its context</p> <p>Source</p> <ul style="list-style-type: none"> •Customer Sales Master Filename •Customer Sales Master Element Name •Social Security Number 	<p>What we need in order to clarify or describe the metadata. The same value can be metadata or meta-metadata depending upon its context</p> <p>Metadata Source (Meta-source)</p> <ul style="list-style-type: none"> •OO Model Name •OO Modeling Tool <p>Metadata Creation Process</p> <ul style="list-style-type: none"> •E-R Model Translation <p>Metadata Origination Date</p> <ul style="list-style-type: none"> •2005-09-30

REMEMBER THE CONTEXT

Welcome to Meta-Meta Land



First...What is a “Metamodel”

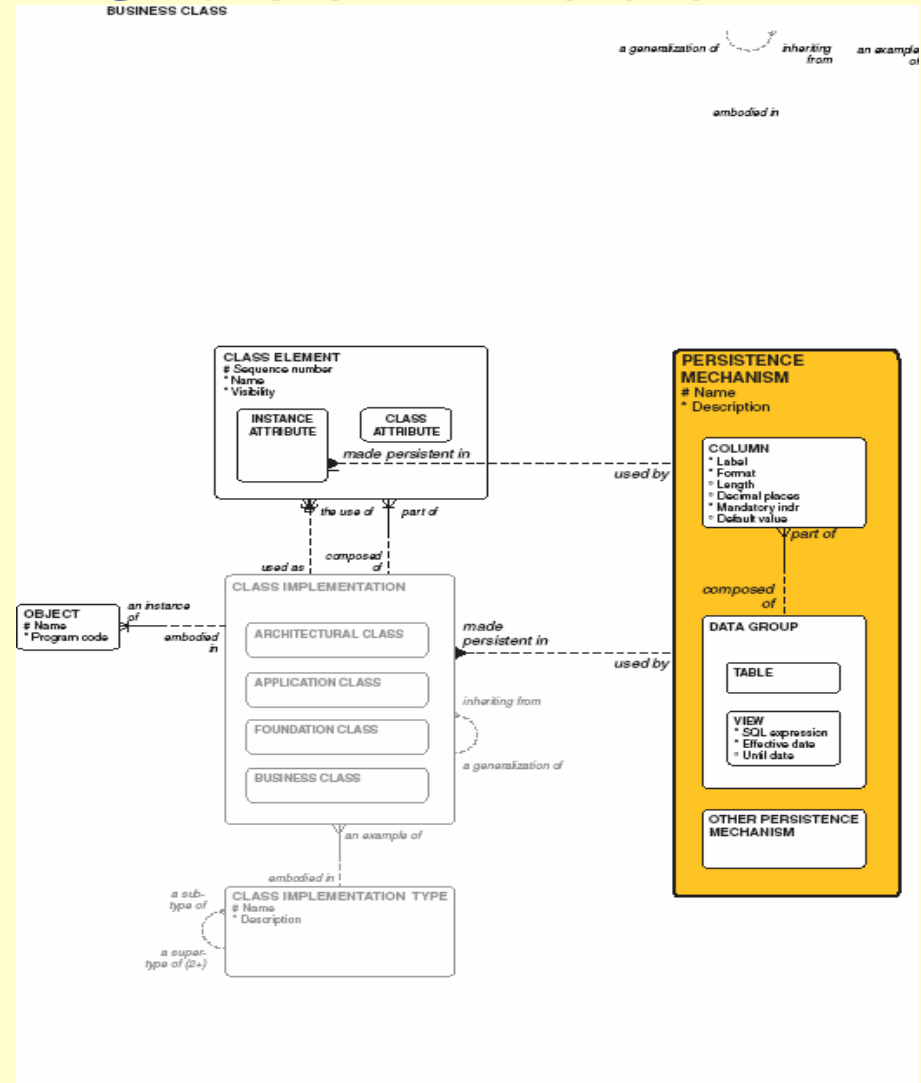


A Current Metamodel Example

“Persistent Class” Model

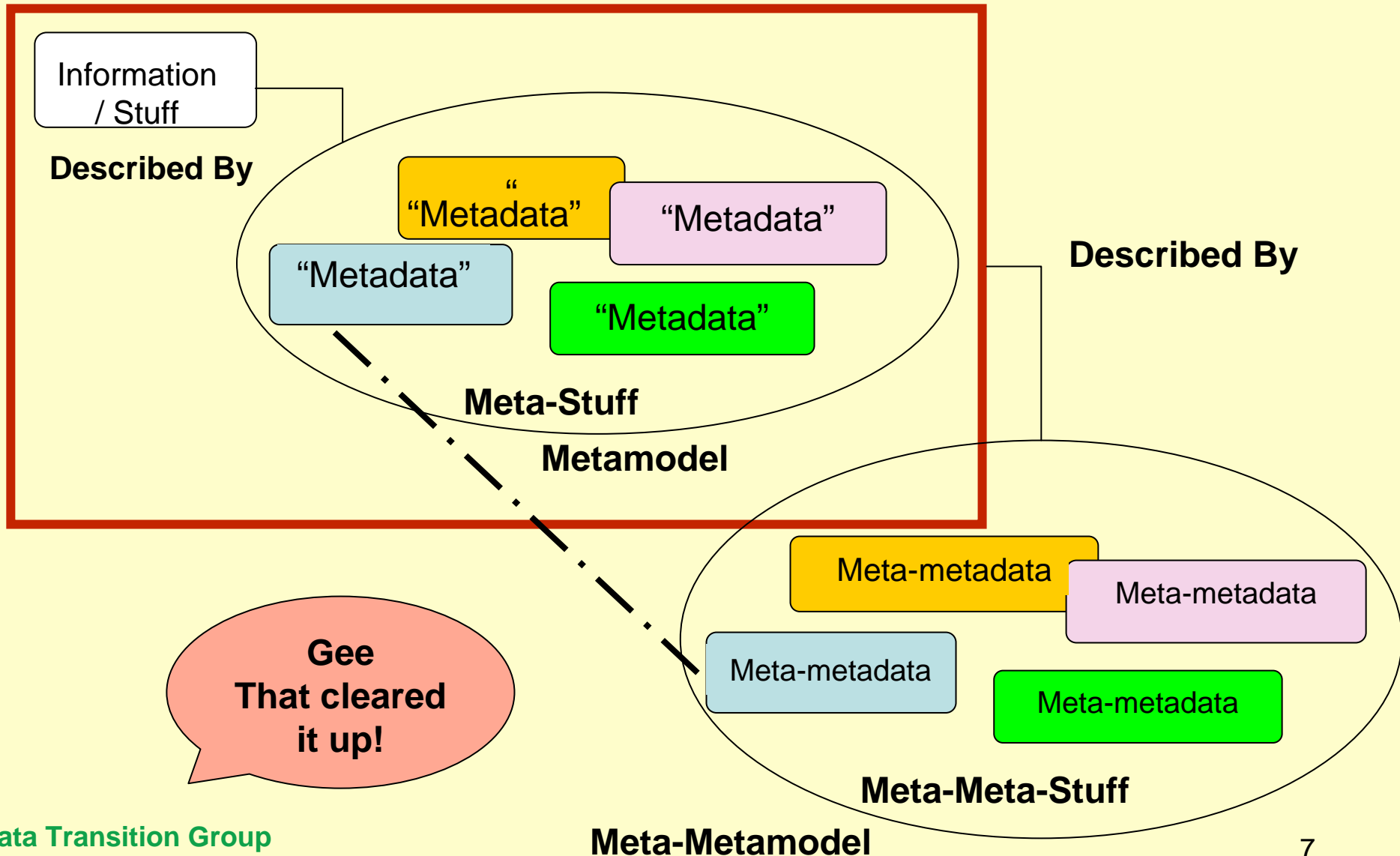
O-O Programming

- “Things” that are “persistent”



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Next...What is a “Meta-Model”

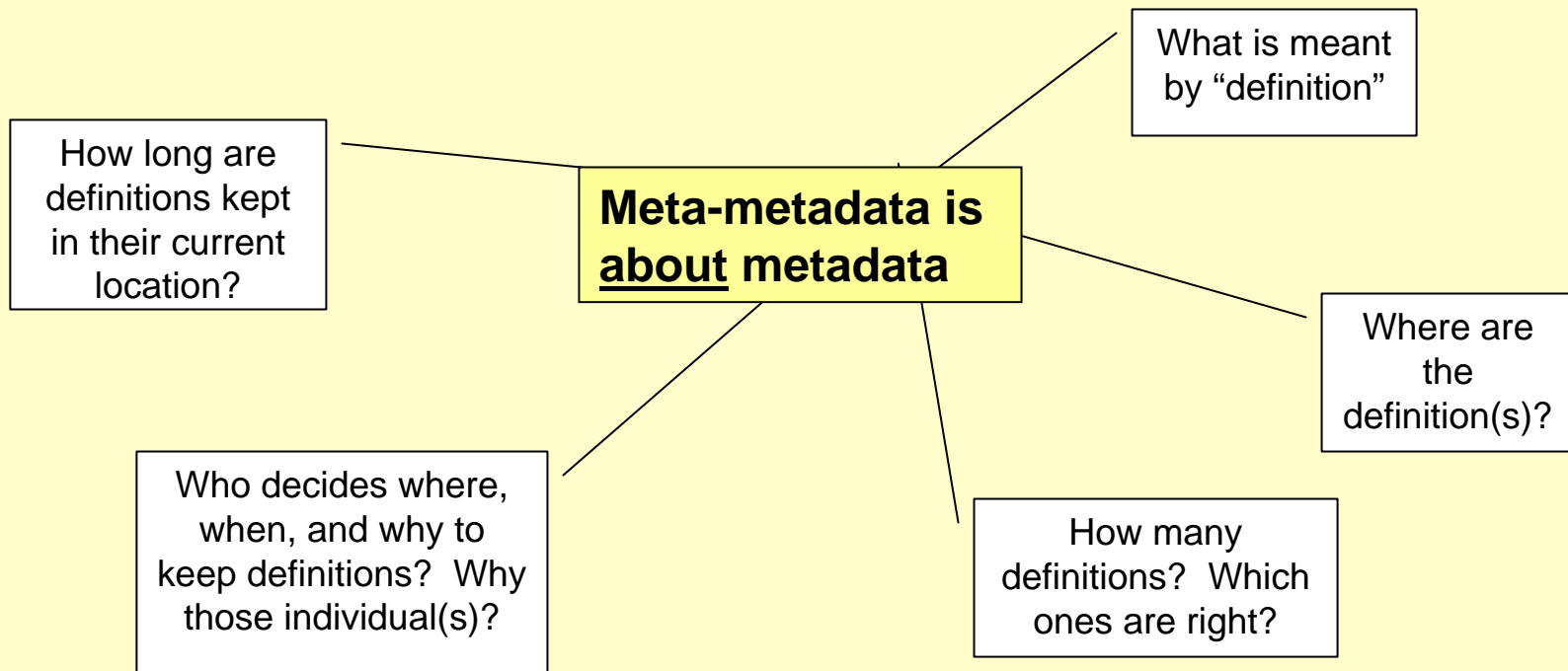


Meta-Meta Thoughts

Understanding *STUFF* is one thing

What about understanding the *Metadata* ?

Didn't our tags and taxonomy categories take care of this?



Meta-meta Perspective

Theoretical

There is one world

We all live in the same world

We all live the same lives

We all use the same things in the same ways

Practical

The world is too big

We cannot identify or see everyone at any time

We do not perform the same actions or achieve the same accomplishments, or....

We do not all need to use every object for the same reason

Clarification via the “MOF”

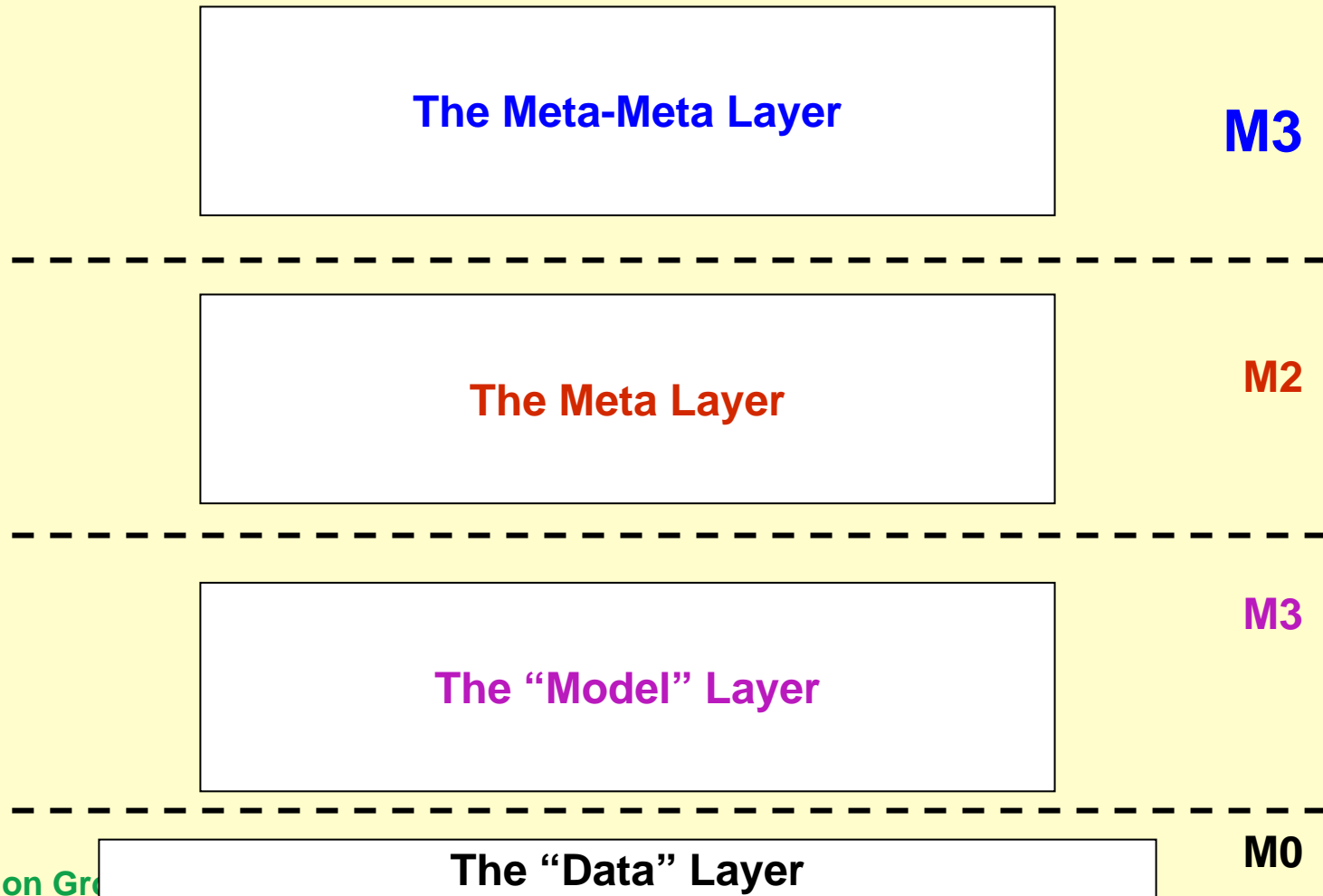
The Meta Object Facility

- Standardizes the “**meta-metamodel**” concept
 - By Modeling “how to model” and standardizing “how to process”
- **Implementations** include:
 - XML
 - UML
 - Other Metamodels
- 4 Model Layers.... or 3.... or 2.....

“Standards exist for one reason but are not followed for another”¹

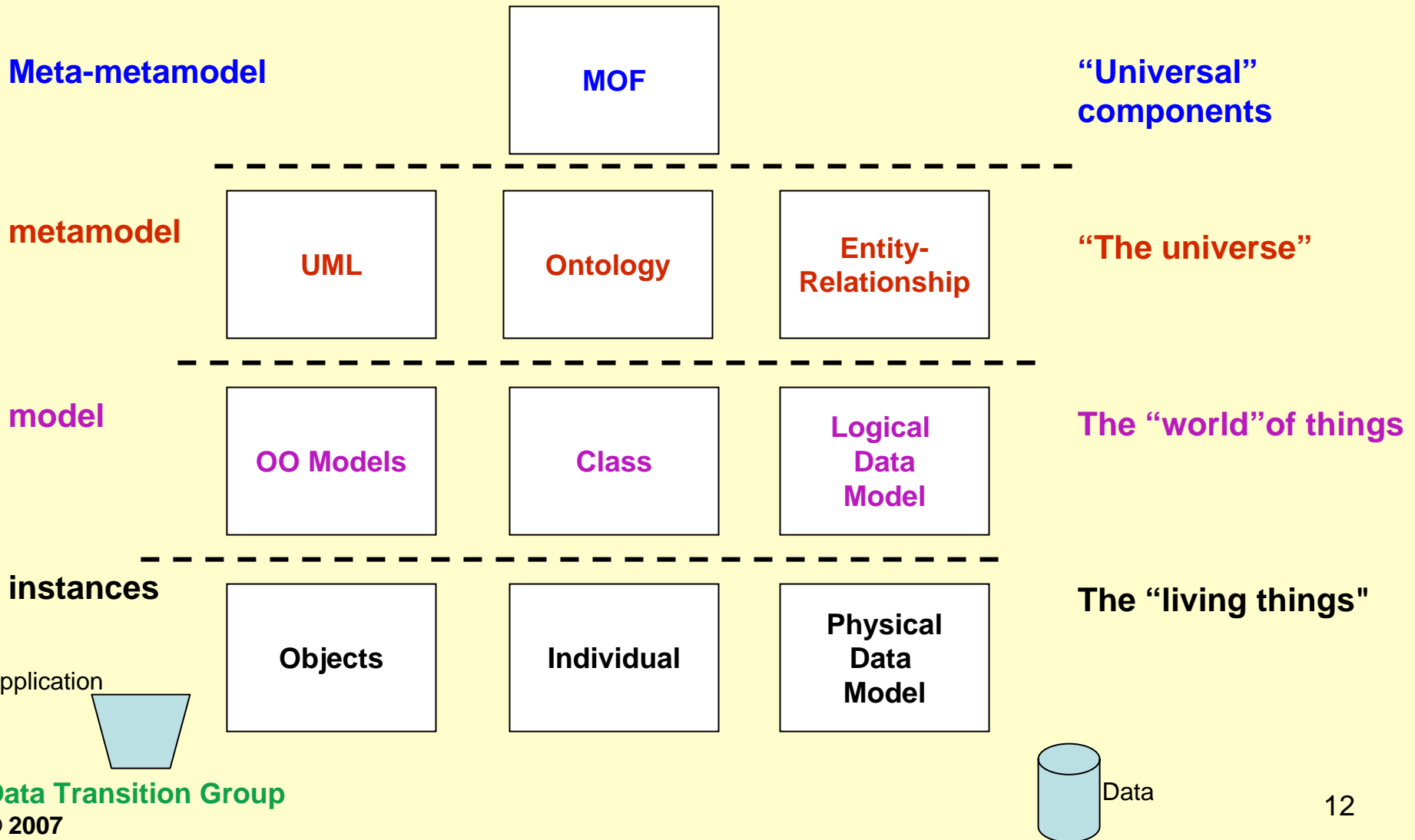
MOF Metadata Architecture

The “Basic” Philosophy

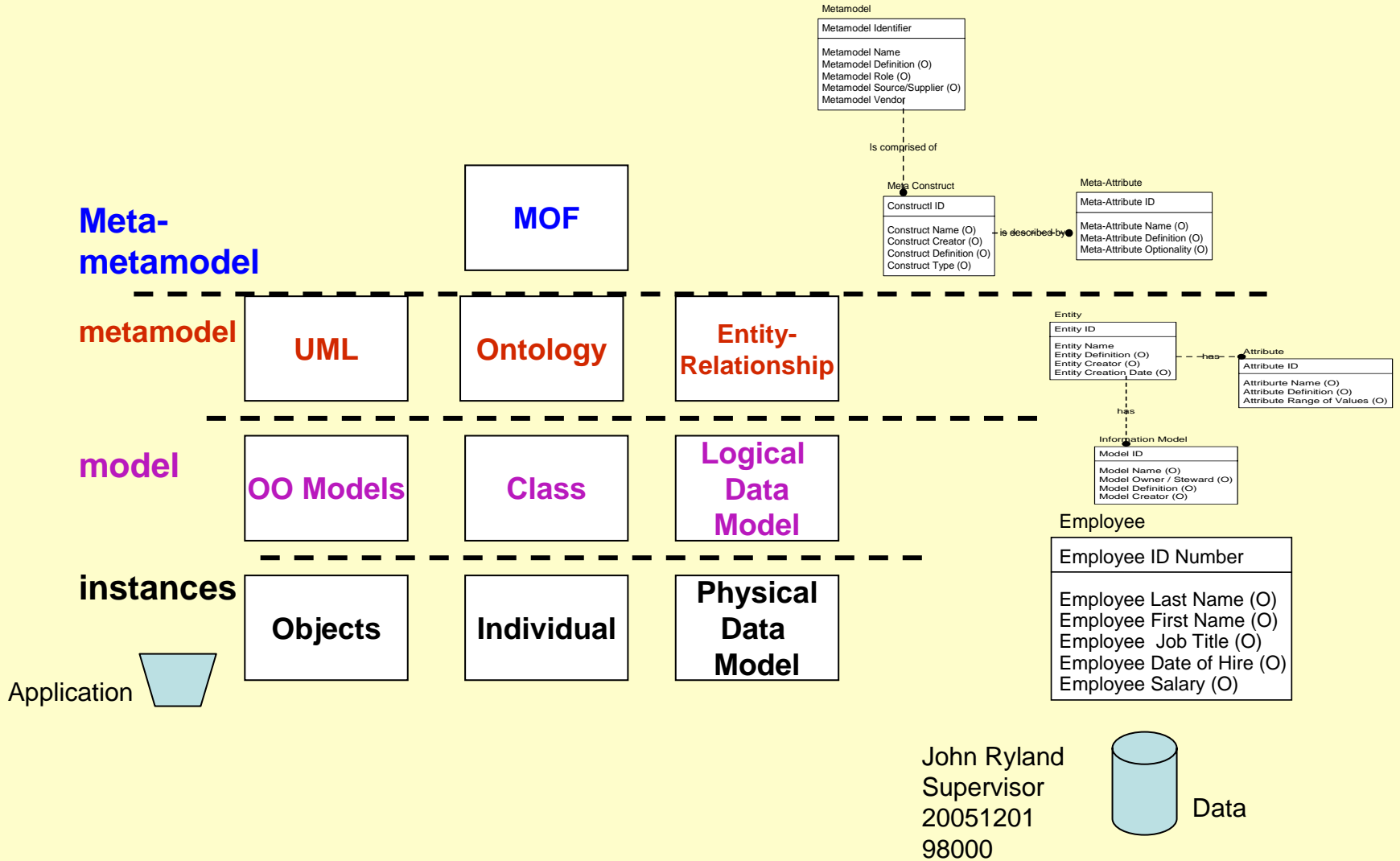


The MOF Metadata Architecture

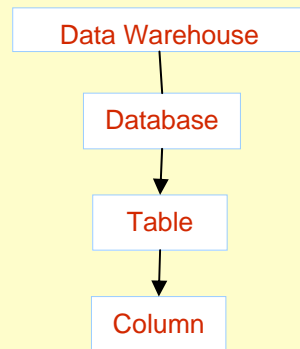
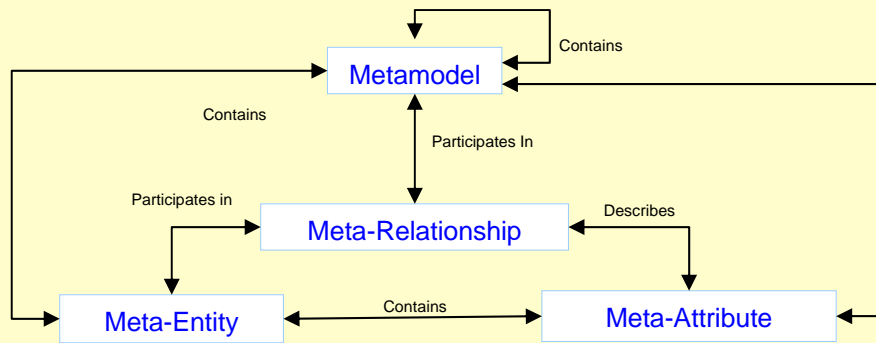
Clarified



The MOF Metadata Architecture



Tying The Models/Levels Together



Customer_Sales_DW:
Customer_DB
Customer Master Table
Customer Name

Data Warehouse Name
Database Name
Table Name
Column Name

Jackson Industries
Morgan Affiliates
Plaster Components, Inc.
Database Design Solutions, Inc.
Catalogue Reproductions
Public Relations Affiliates, Inc.

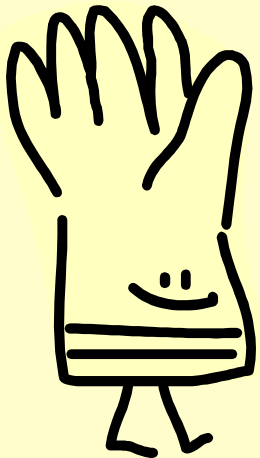
Meta-metamodel

Metamodel

Metadata

'Data'

Meta-Meta Processing



- Meta-meta level information must be handled with meta-meta level gloves

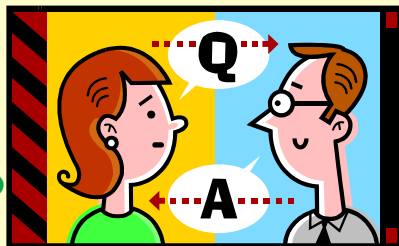
“Anything that can be done can be done “meta”¹

1. Simonyi, Charles - 2004

Meta-Meta Role

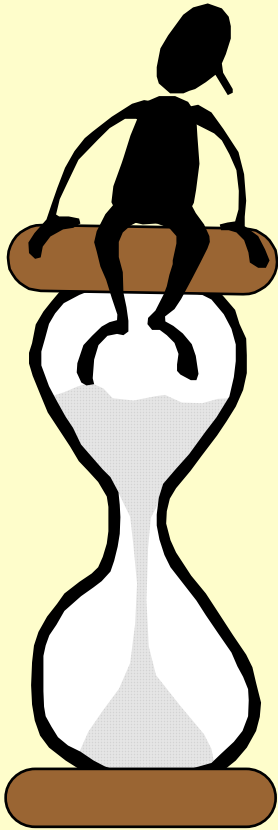
- Substantially impacts and determines the coordination of multiple metadata sources and places
- Not for the weak of heart!

Now for the purpose of all of this – our
“Phase 2” Environment



Important!

Student Perspective

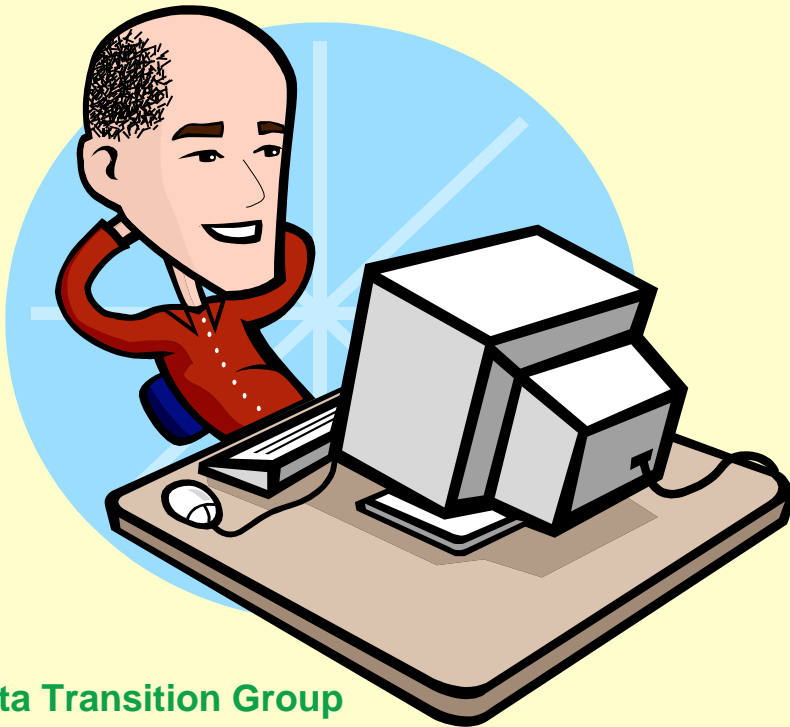


- Metadata already exists
- A main or central place for metadata already exists
 - Fancy
 - Not so Fancy
 - Simple and Basic
- The metadata solution effectiveness is dwindling..(or non-existent)

And metadata is not *just* a “**data** thing”

'Phase 2' Metadata Solution Environment

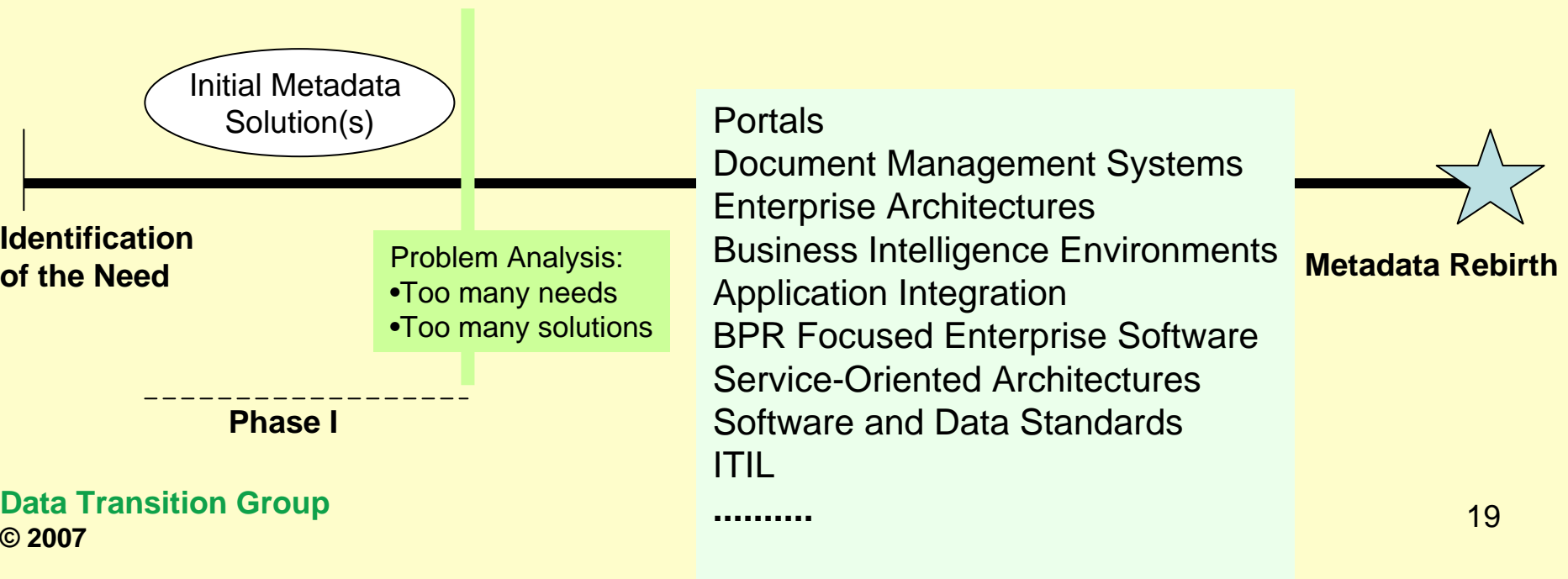
Some meta-thoughts



Why is this Phase different from all other Phases?

What's "New" for "Phase 2"

- The Phase Number
- Acceptance of "What Is"
- No More Expected "Silver Bullets"
- A New "Consumer Profile"



Traditional “Phase 2” Metadata Strategies (not necessarily practical)

- Start Over
 - always the easiest
- Evaluate the quality of your existing metadata
 - nice place to start?
- Reduce scope
 - what does this mean?
- Rely on and leave metadata responsibilities to data stewards / business spokespeople
 - Pass the buck?
- Re-assess metadata creation and maintenance activities
 - How is it all done now?

Suggested Phase 2 Strategies

Use the Meta-meta Backbone¹

Focus on Functionality Options

Identify then Locate

Locate then Identify

Optimize

- Correct
- Clean

Standardize

Organize

Control

Focus on Architectural Options

Distributed and “Unrelated”

Distributed and “Related”

Distributed (Related) and Organized

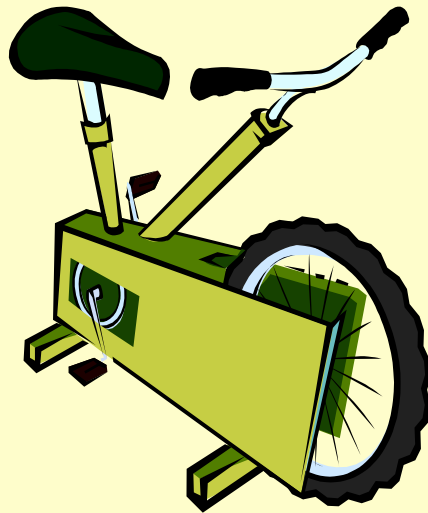
Point of Control

- Central
- Hierarchical
- Remote

“Star Schema”

¹ Information and/or process software are both addressed

A Brief Reminder



1. Recovery First
 - Dealing with what you have
2. Rebirth Second
 - Creating a better world

Identify then Locate

Recovery Steps Involved

Identify

1. Shopping List Development

Identify criteria for what must be located

Examples (not exclusive!):

Taxonomy values

Subject areas

Production applications

Document contents

Locate

2. Locate Procedures

Determine and/or develop “locates”

Find, not retrieve!

Examples (not inclusive!):

Content-based searches

“Scan”

Value matches – tags, filenames, database column names, etc.

Identify then Locate

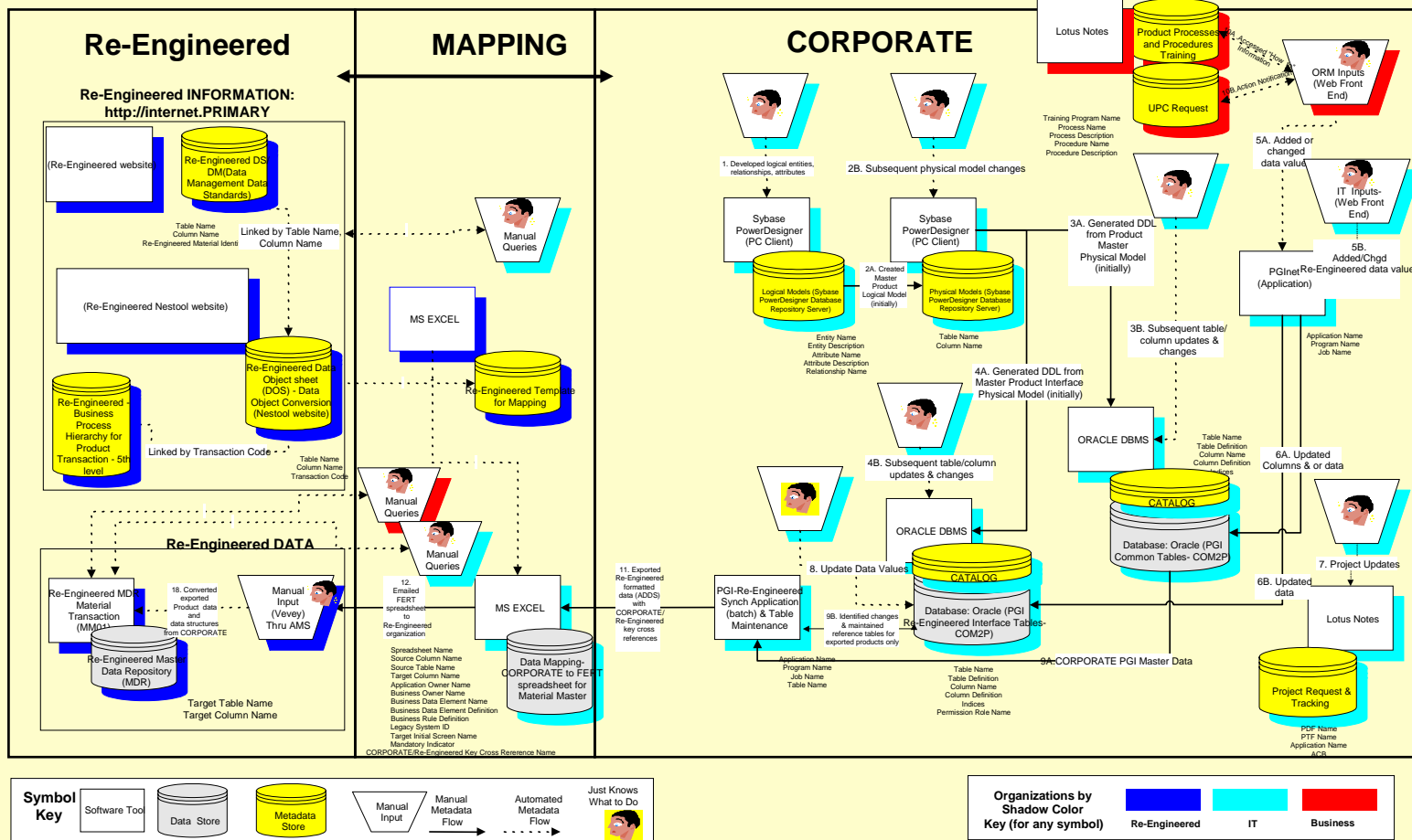
Rebirth Steps Involved

1. Evaluate “Option 1” results
 - Statistically popular criteria
 - What identification factor yielded the most / least success?
 - Number of “hits”
 - Accuracy of “hits”
 - Value of “hits”
2. Expand / Massage identification criteria
3. Determine feasibility of category standardization

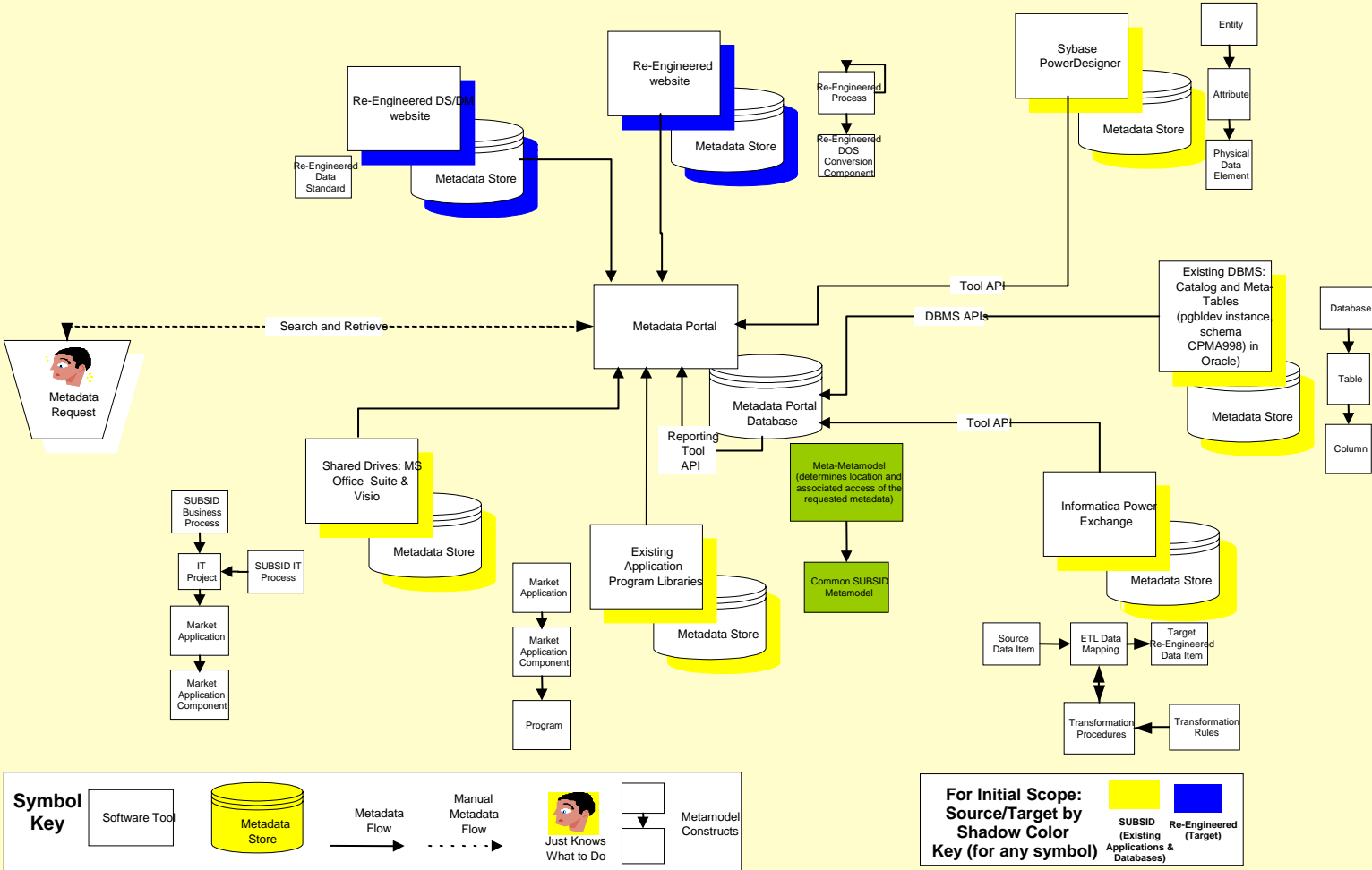
Prioritize Architecture

- How, where, and when metadata is accessed, stored, created, maintained within your enterprise architecture
 - Distribution
 - Connection / Relationship
 - Organization
 - Control

Distributed Metadata Flow

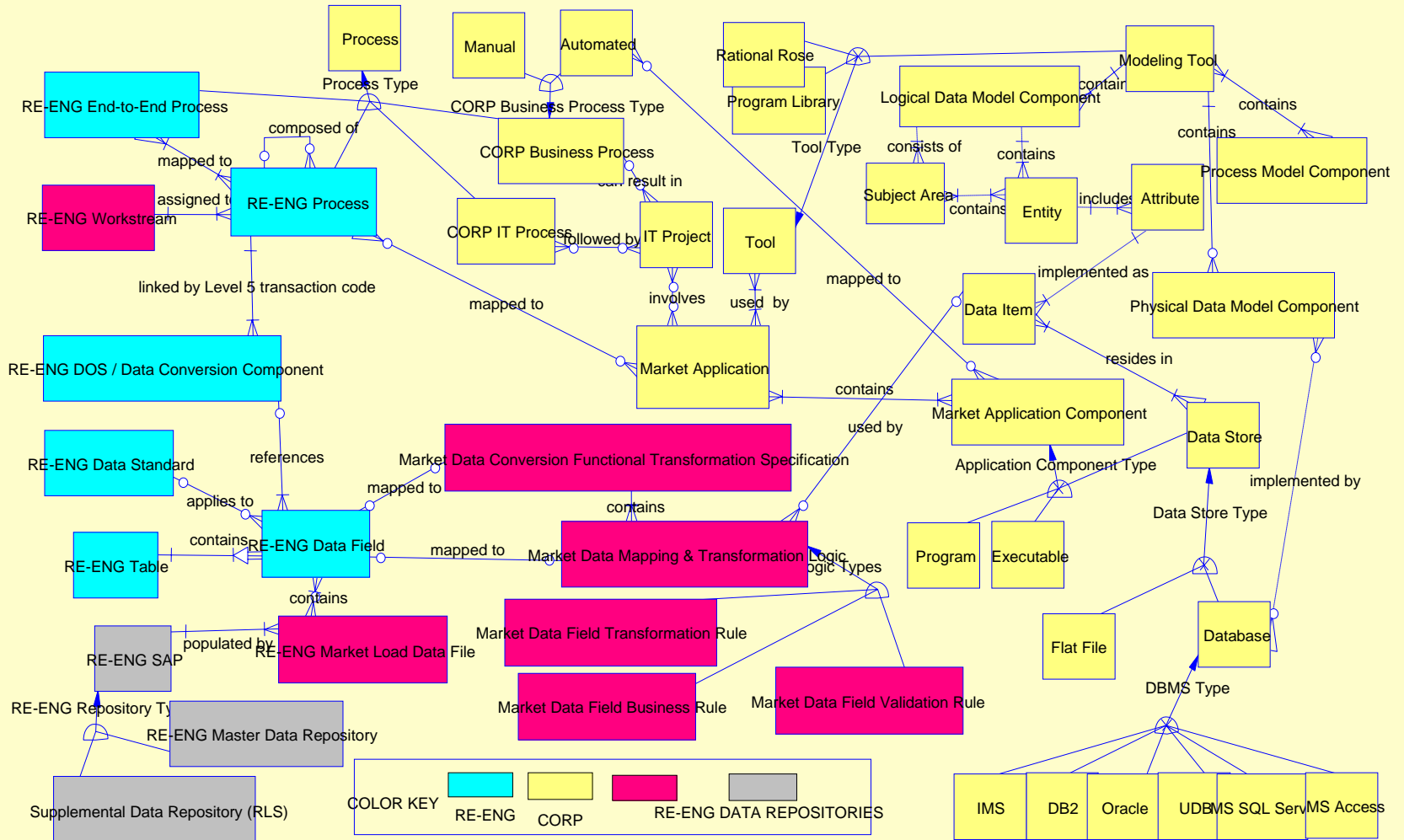


Distributed and Related/Connected Metadata Solution Architecture



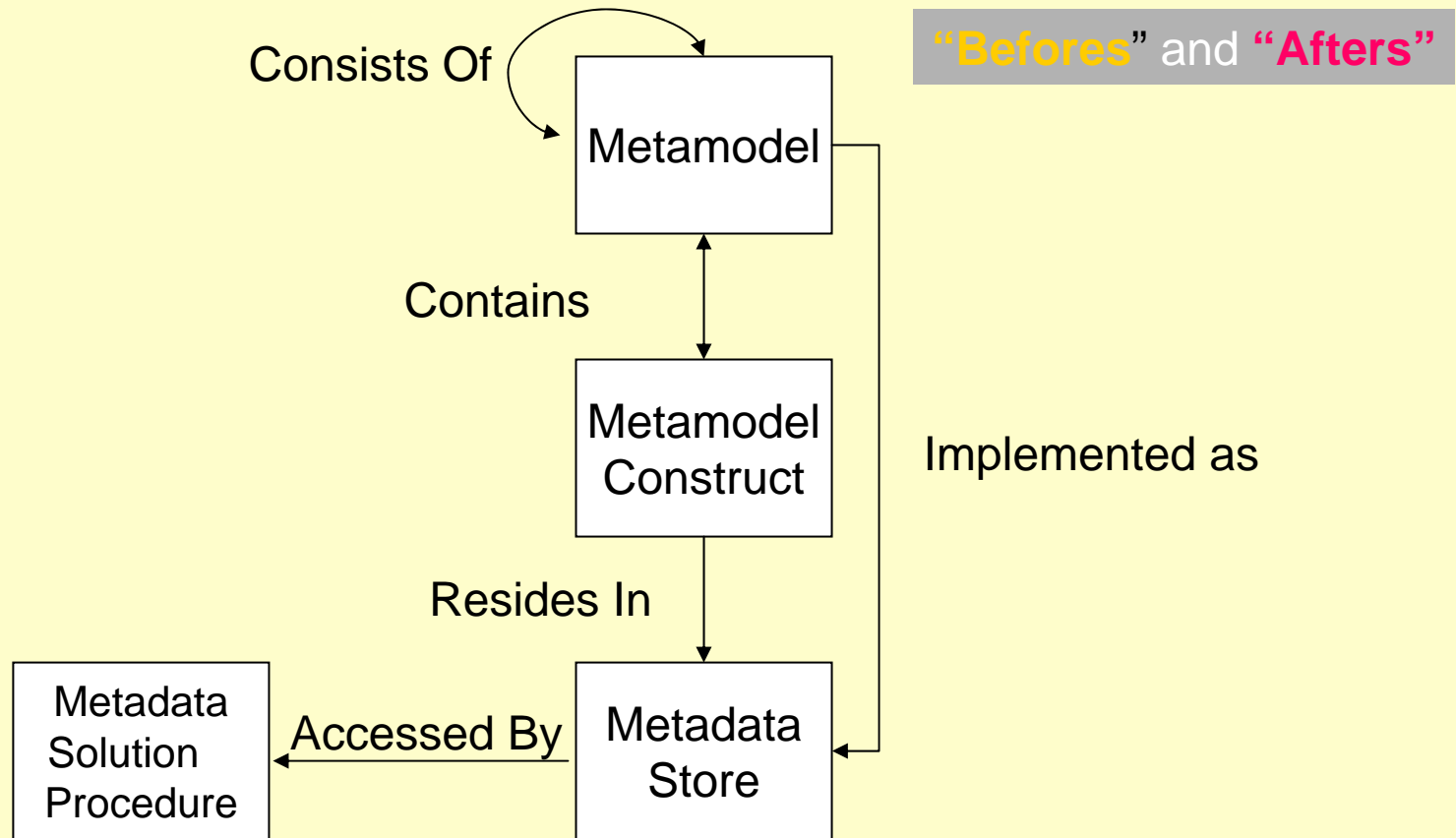
Metadata Solution

Distributed / Related / Organized



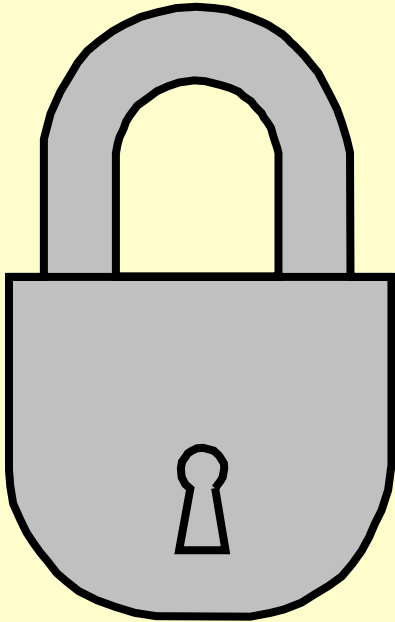
The Re-Engineering “Idea”

At the Meta-Meta Level

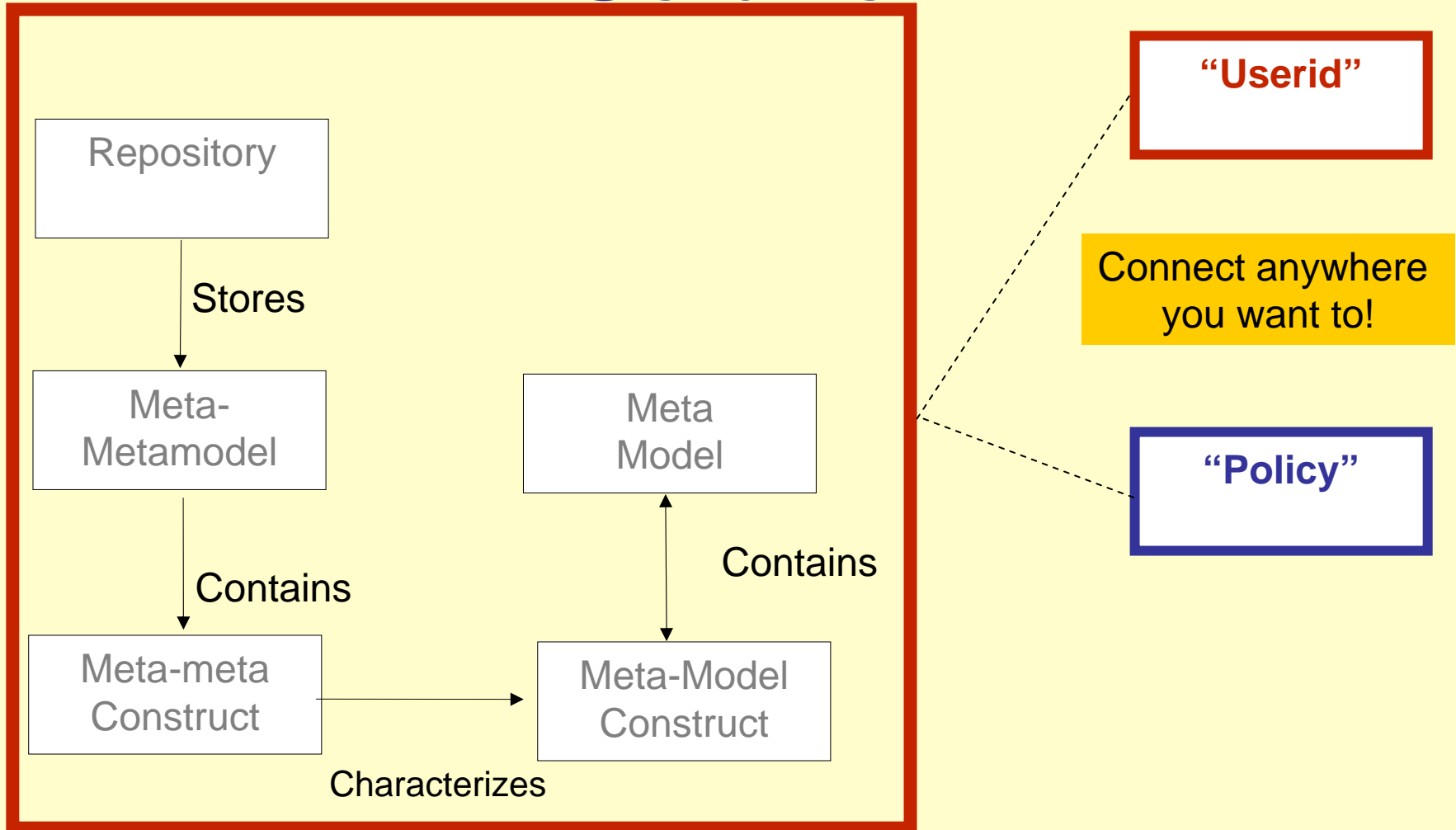


Adding “Control” Security

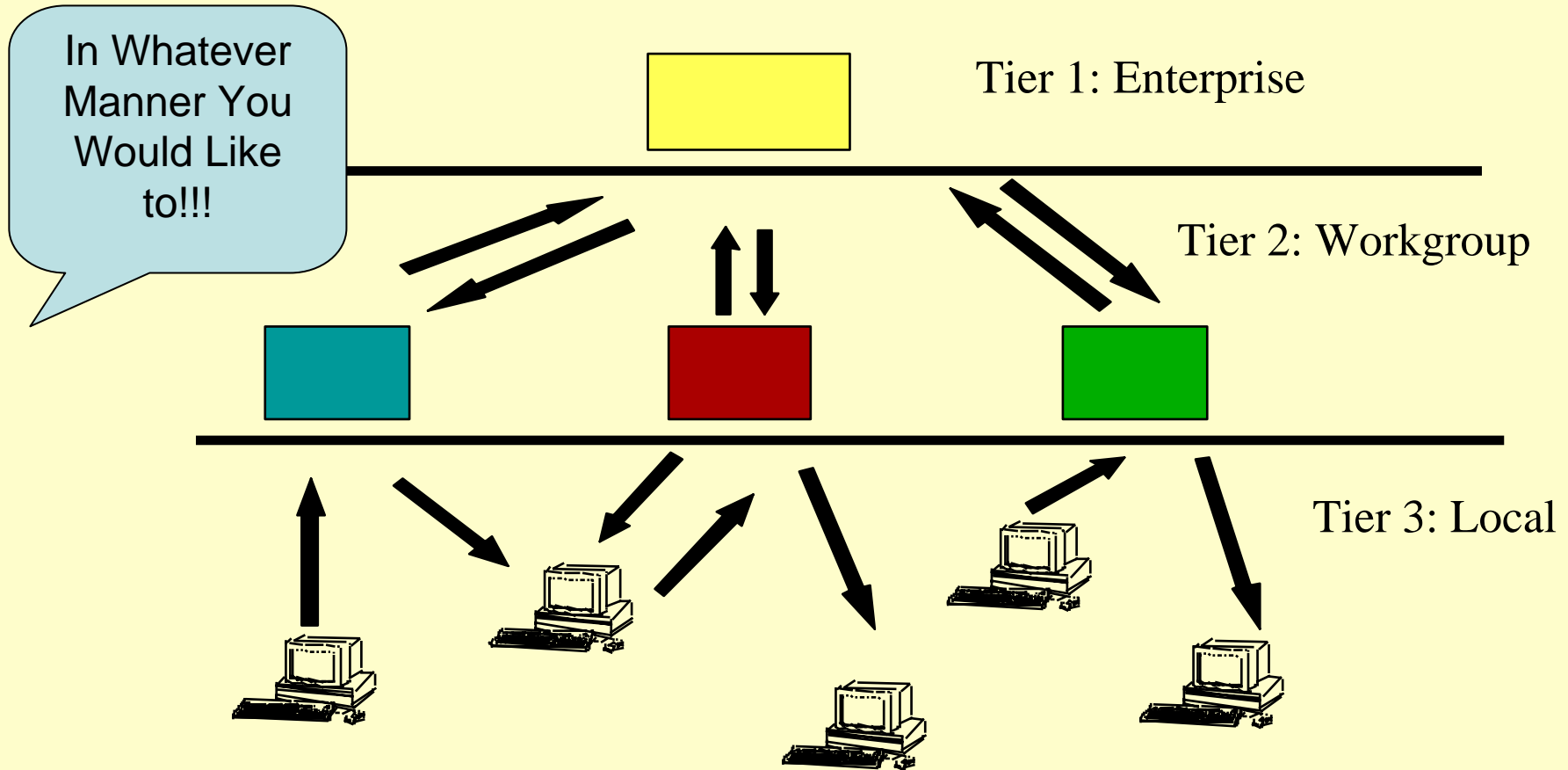
- At the “meta-meta” level
 - Super-flexibility
 - “Policies”



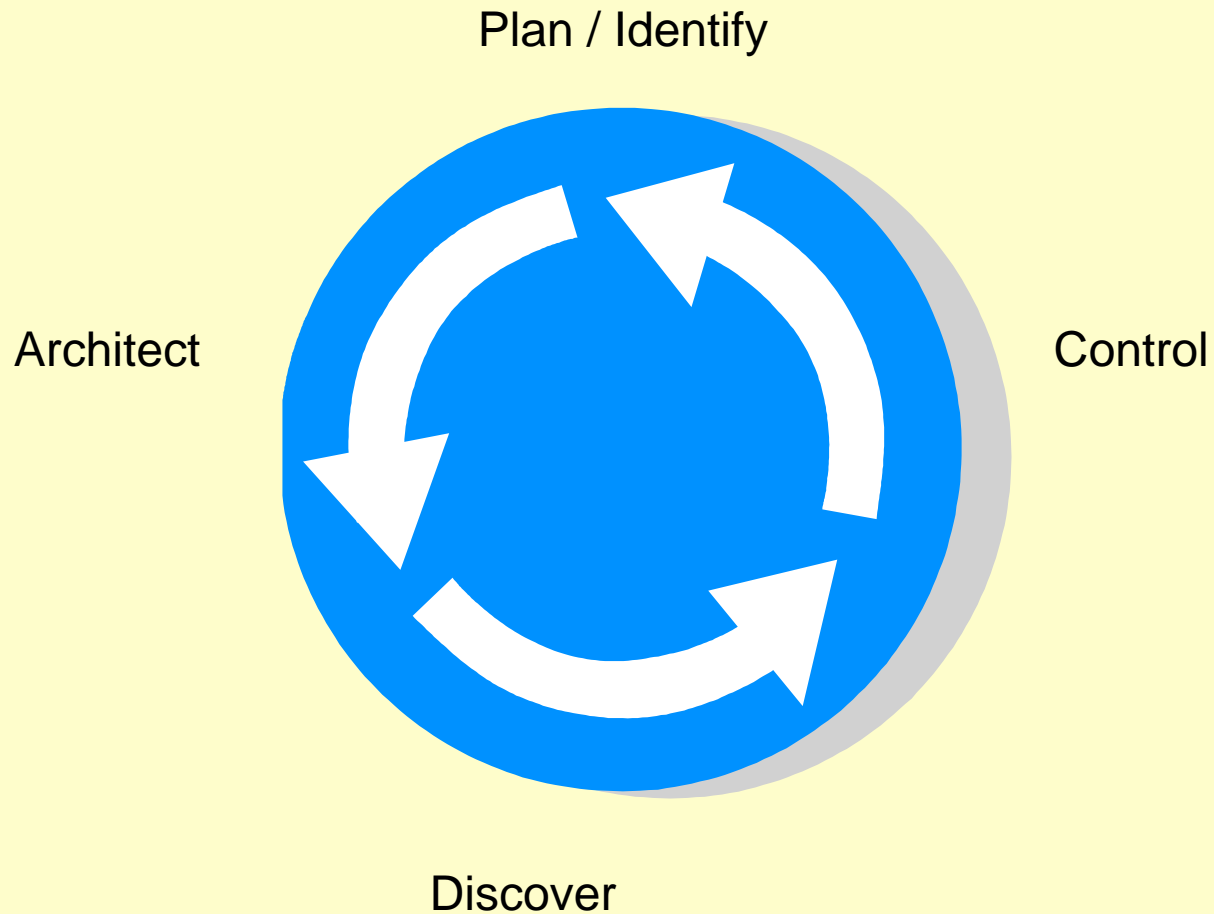
A “Controlled” Metadata Solution



Find Out What You Have!!!



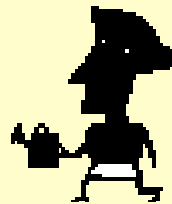
What Suits You Best?



Reincarnation

Metadata may not really be dead

....just asleep



Questions and Additional Reading

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Publications

<mailto:info@dbdsolutions.com>

Questions

1-800-990-DBDS

'Live' Discussions

