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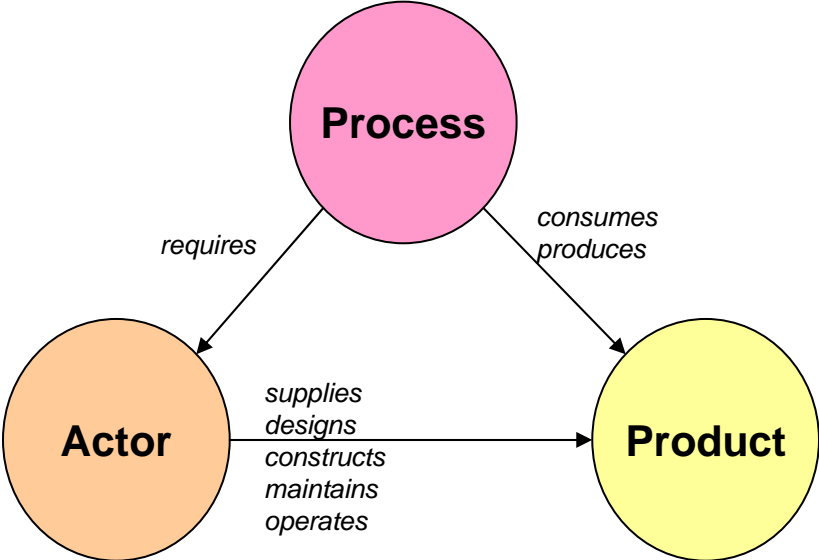
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International Standards

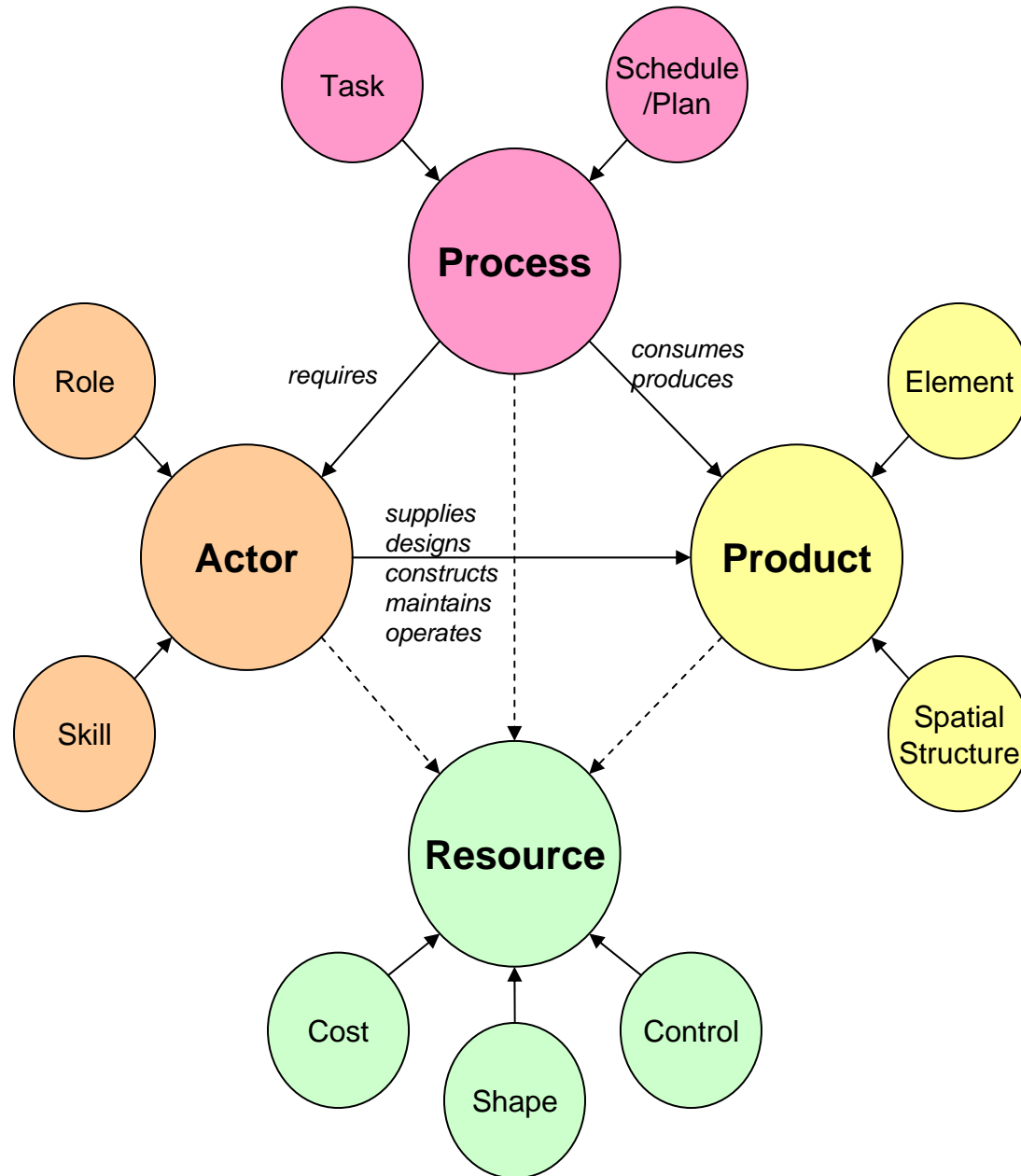
Jeffrey Wix

AEC3 Ltd

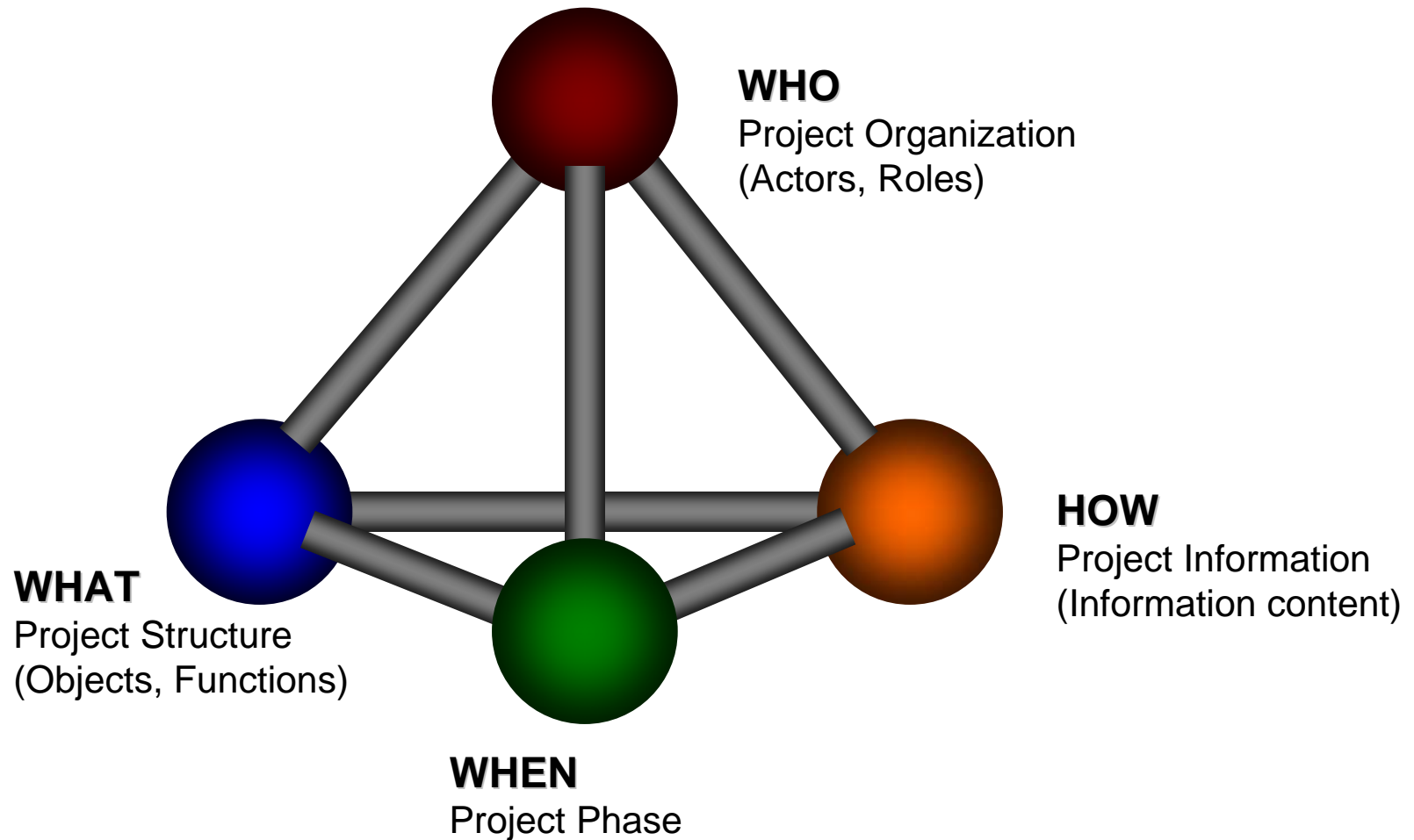
The basic usage triangle



Providing resources ...



What we need to know in a process



IFC

▶ IFC

- ▶ IFC is a comprehensive specification of information about an AEC/FM project.
- ▶ It captures information from:
 - ▶ all types of organization involved in the project
 - ▶ all stages in the project lifecycle
- ▶ Requirements are
 - ▶ defined and tested by industry specialists
 - ▶ developed in projects that focus on key areas of the AEC/FM process
- ▶ Results are entities that are integrated into a single, consistent whole.

▶ Software

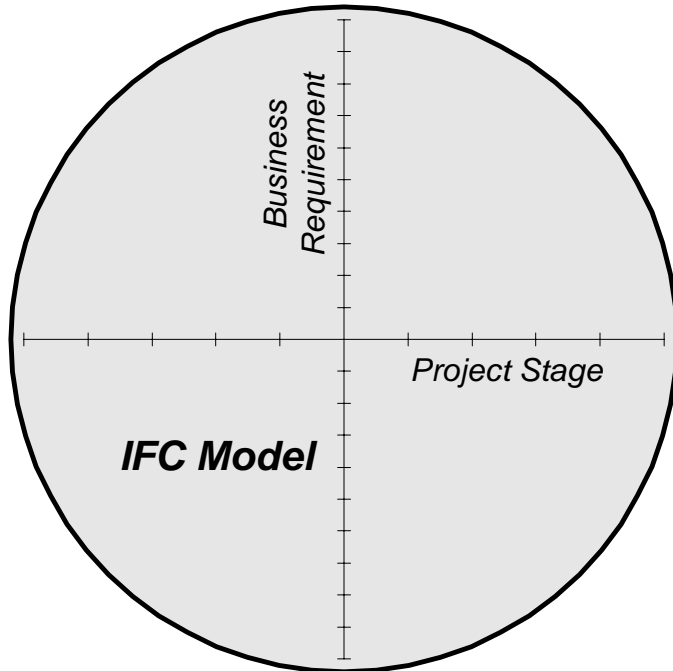
- ▶ IFC compliant software is coming into use on AEC/FM projects
- ▶ To be a normal part of working, it must provide secure and reliable information exchange/sharing for users
- ▶ Users must be confident that the IFC data they are receiving is accurate and sufficient for the activities they want to carry out

Views

- ▶ **Solution providers do not need everything in IFC to meet their needs**
 - ▶ They work with parts of IFC called 'views'
 - ▶ IFC certification is carried out against views
- ▶ **A view handles the information requirements of a set of business processes**
 - ▶ But generally, do not expose the needs of a single business process at a single point in time
 - ▶ ... a transaction
- ▶ **For users, the need is to do:**
 - ▶ ... something specific
 - ▶ ... that is repeatable
 - ▶ ... with certainty
 - ▶ ... and that can be contractually obligating

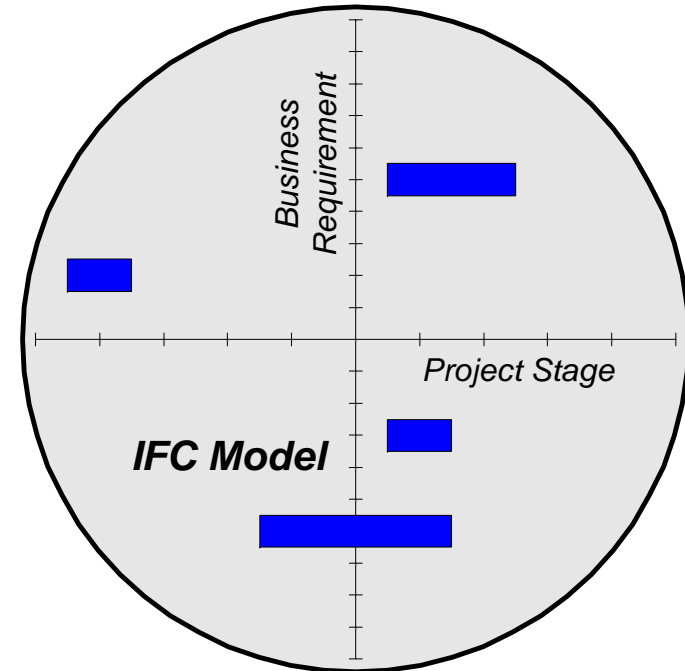
Intent of the IFC schema

Current status



- ▶ IFC supports all business requirements at all project stages.
- ▶ used to capture all project information
- ▶ does not capture day to day transactions

Objective



- ▶ support for one business process over multiple project stages
- ▶ capture day to day transactions
- ▶ consistent with IFC
- ▶ support what solution providers need to implement

Vision / mission

▶ Aim

- ▶ to create the Information Delivery Manual (IDM)

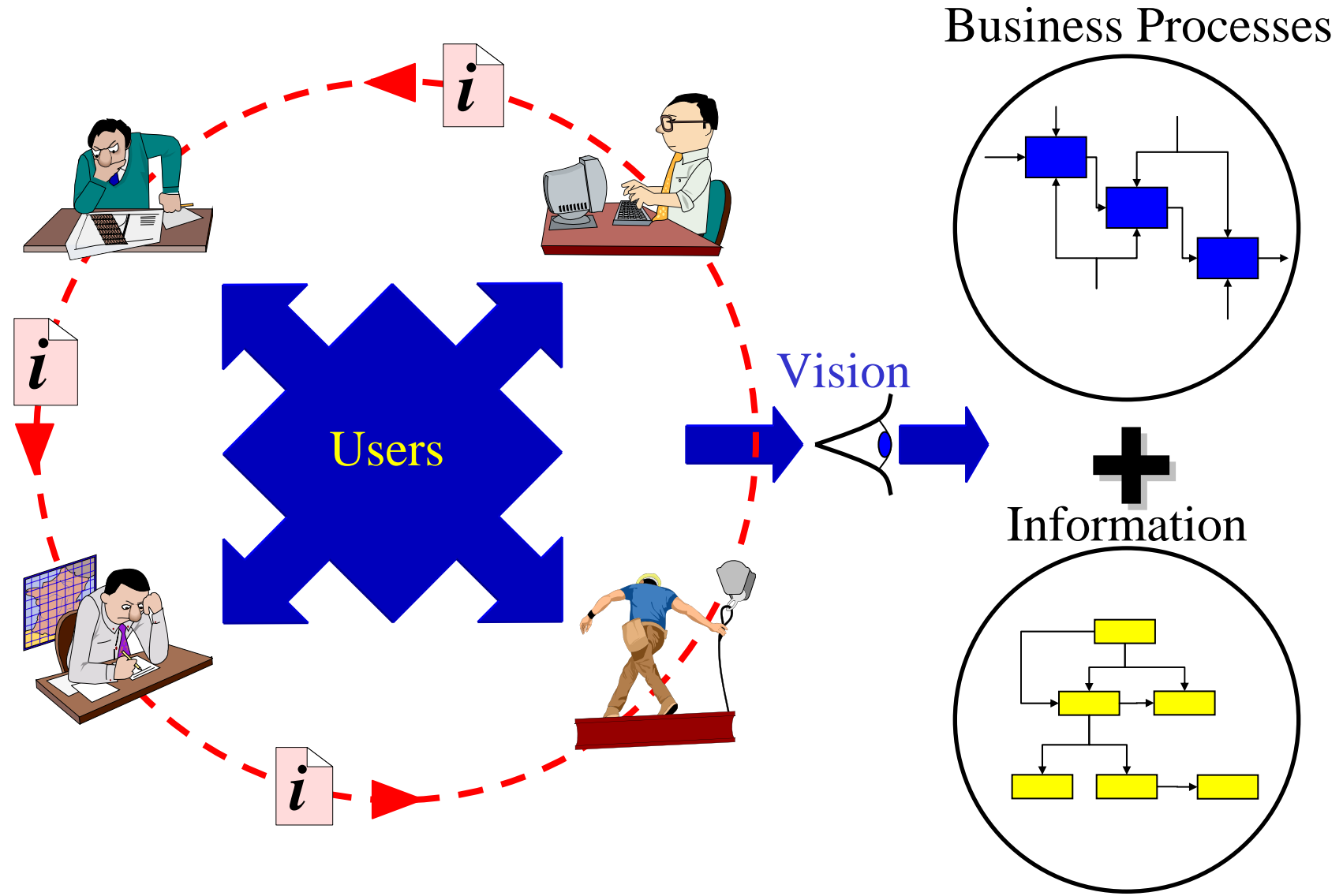
▶ Vision

- ▶ to unite the description of business processes with the specification of information within the AEC/FM project lifecycle to enable realization of the full benefits of process improvement and information sharing

▶ The mission of the IDM is to provide:

- ▶ a comprehensive reference to information requirements for the AEC/FM industry by identifying:
 - ▶ the processes that require the exchange/ sharing of information,
 - ▶ the information required for and resulting from carrying out processes.
- ▶ a basis for agreement between project participants about the information that can *reasonably* be expected to support a process
- ▶ a basis for consistent development of project specific processes

Vision



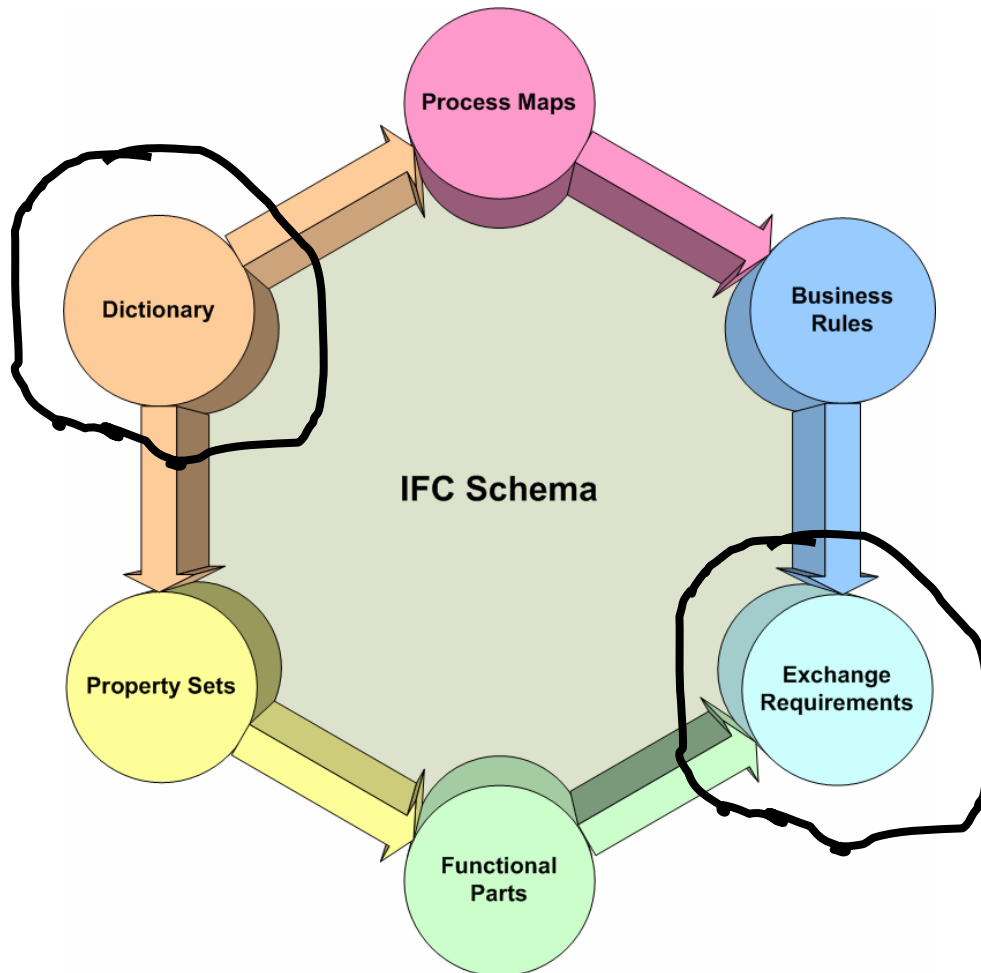
Goals

- ▶ **The goals of the IDM are to:**
 - ▶ **define the processes within the AEC/FM project lifecycle for which users require information exchange**
 - ▶ **specify the IFC capabilities required to support these processes.**
 - ▶ **describe the results of process execution**
 - ▶ **identify the actors sending and receiving information within the process by role**
 - ▶ **ensure that definitions, specifications and descriptions are provided in a form that is useful and easily understood by the target group**
- ▶ **----- AND -----**
- ▶ **encourage solution providers to provide guidance on how their software applies and uses IDM principles**

Target groups

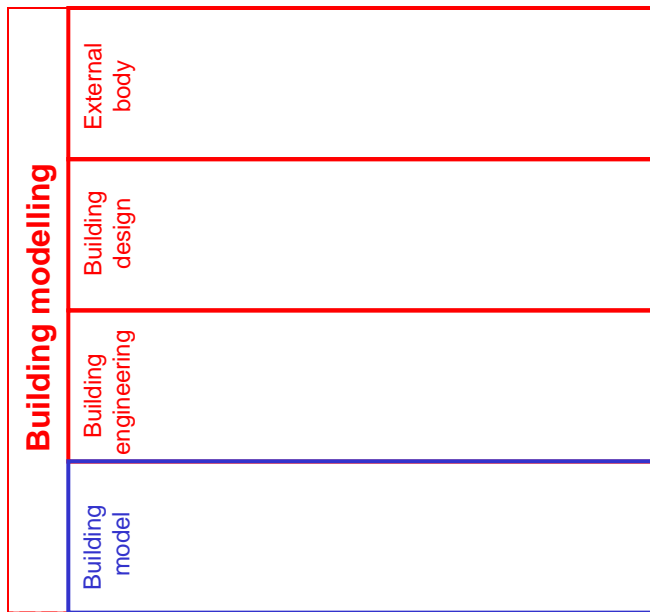
- ▶ **The intended target groups for the IDM include:**
 - ▶ **Executive user**
 - ▶ makes the decision to use IFC information exchange
 - ▶ does not need to know about software development or IFC
 - ▶ **End user**
 - ▶ uses IFC for information exchange in practice
 - ▶ does not need to know about software development or IFC
 - ▶ **Solution provider**
 - ▶ writes a software application with an IFC interface
 - ▶ needs to have a detailed technical knowledge of IFC
 - ▶ **Model developer**
 - ▶ extends the IFC model or provides guidance on new uses
 - ▶ needs to have both practical usage and technical knowledge

Proposal



- ▶ **IDM is part of a proposed framework (or architecture) within which information can be delivered and used**
- ▶ **Concerned with information for construction**
 - ▶ **how it is represented**
 - ▶ **how we can understand its meaning**
 - ▶ **how it can be used**
 - ▶ **benefits that result**

Process mapping - Step 1



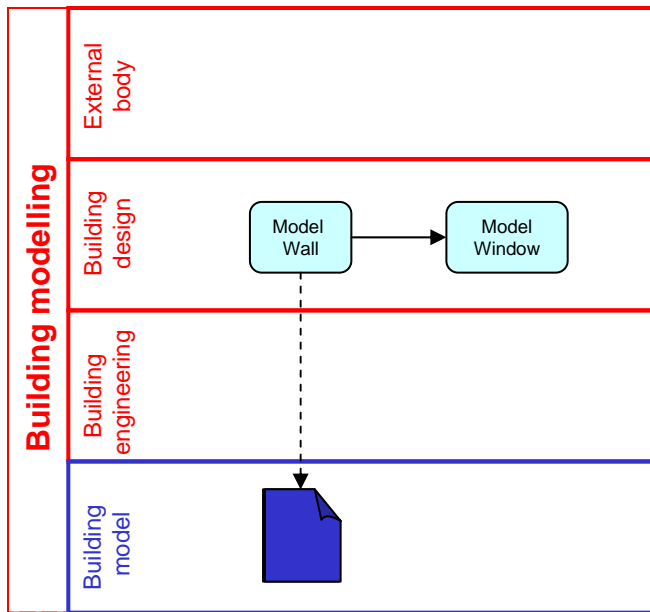
Process maps are developed as 'swimming pools'

A 'pool' is labelled to show the set of processes being mapped

Processes (tasks) for each 'actor role' are shown in 'swimlanes'

In IDM process maps, the building information model is always shown as an actor role

Process mapping - Step 2



Processes are added for each actor role

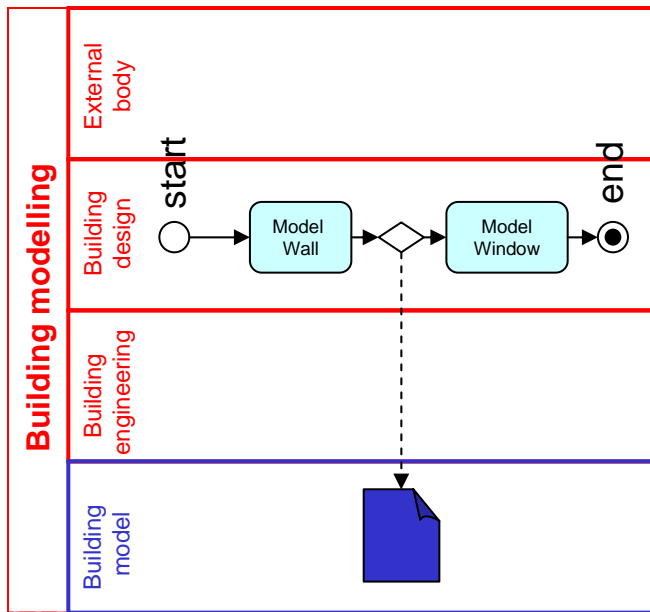
A 'sequence' arrow connects two processes (output/input)

A data object is an entity that can appear in a process map that acts as a container for information

A 'message' arrow describes information passing from a process to a data object

A data object defines an 'exchange requirement' for IDM

Process mapping - Step 3

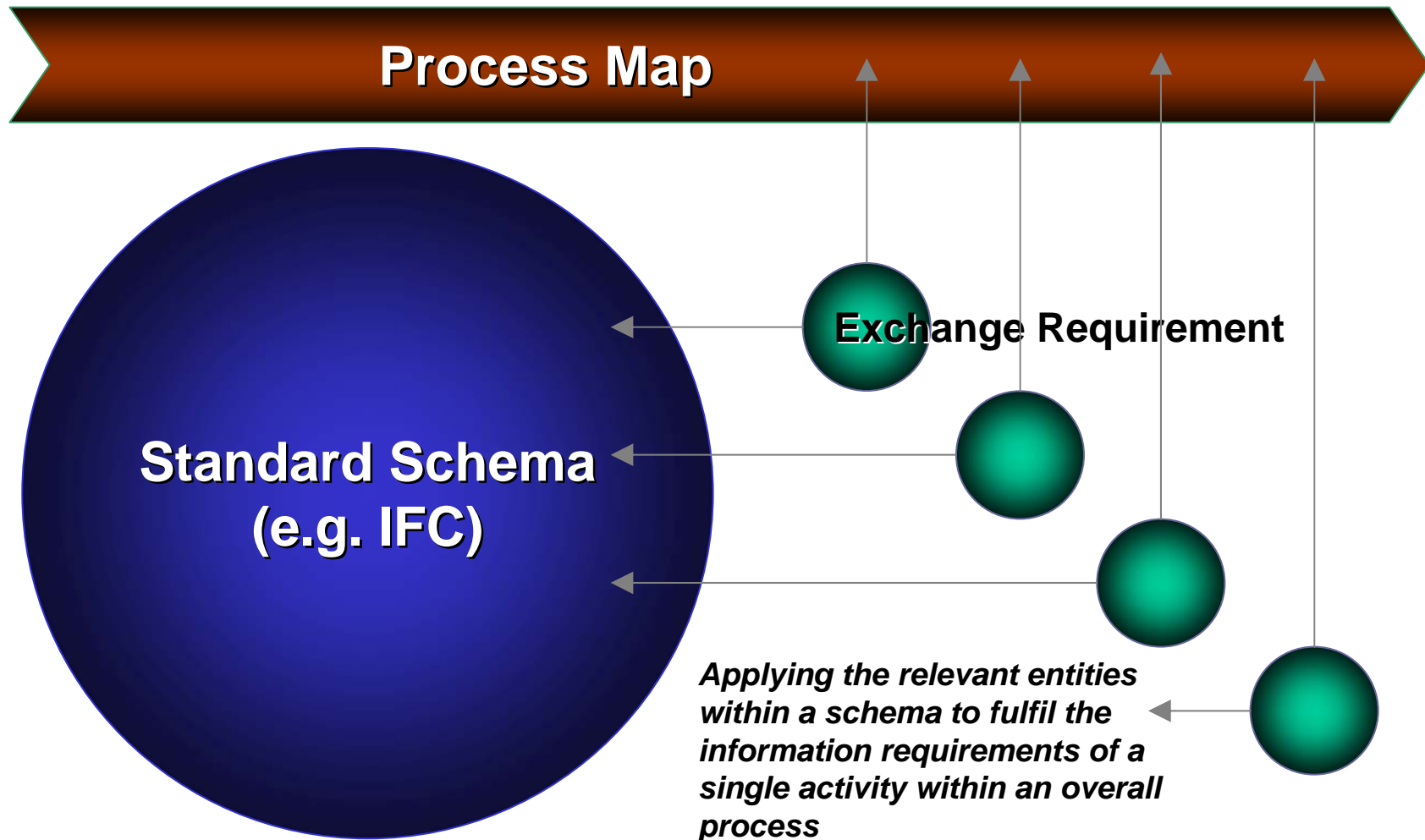


Events can be added. Many types of events can be supported (start, end, rule, timed, complex and more)

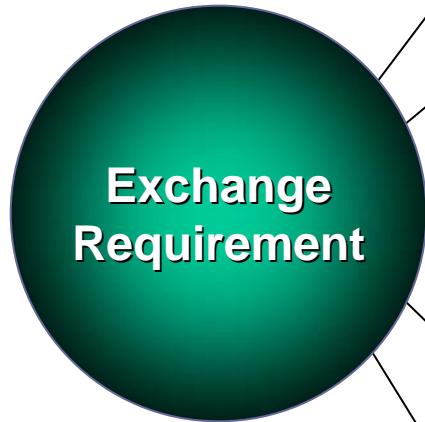
Decisions can be included in the process map; these can be inclusive/exclusive etc.

Decisions are interpreted as coordination points in IDM; they are points at which exchange requirements are made generally available through a building information model and their content reviewed/validated

Capturing the link between process and data



Delivering benefit for the user



Exchange Requirement

Declare the activity (business purpose) that it is fulfilling

Declare the point in the process at which the requirement is occurring

Declare the project for which the requirement is being met

Recognize rules that constrain the use of particular features and values that might be applied

Capture/reference guidance on how a particular application might satisfy requirements from a user perspective

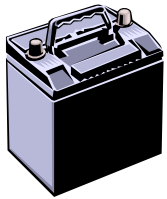
Describe the requirement in non-technical terms that are easily understood and applied by the user



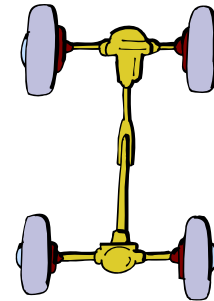
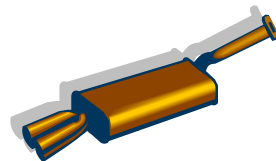
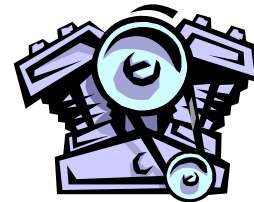
Providing solutions for the user



Exchange Requirement

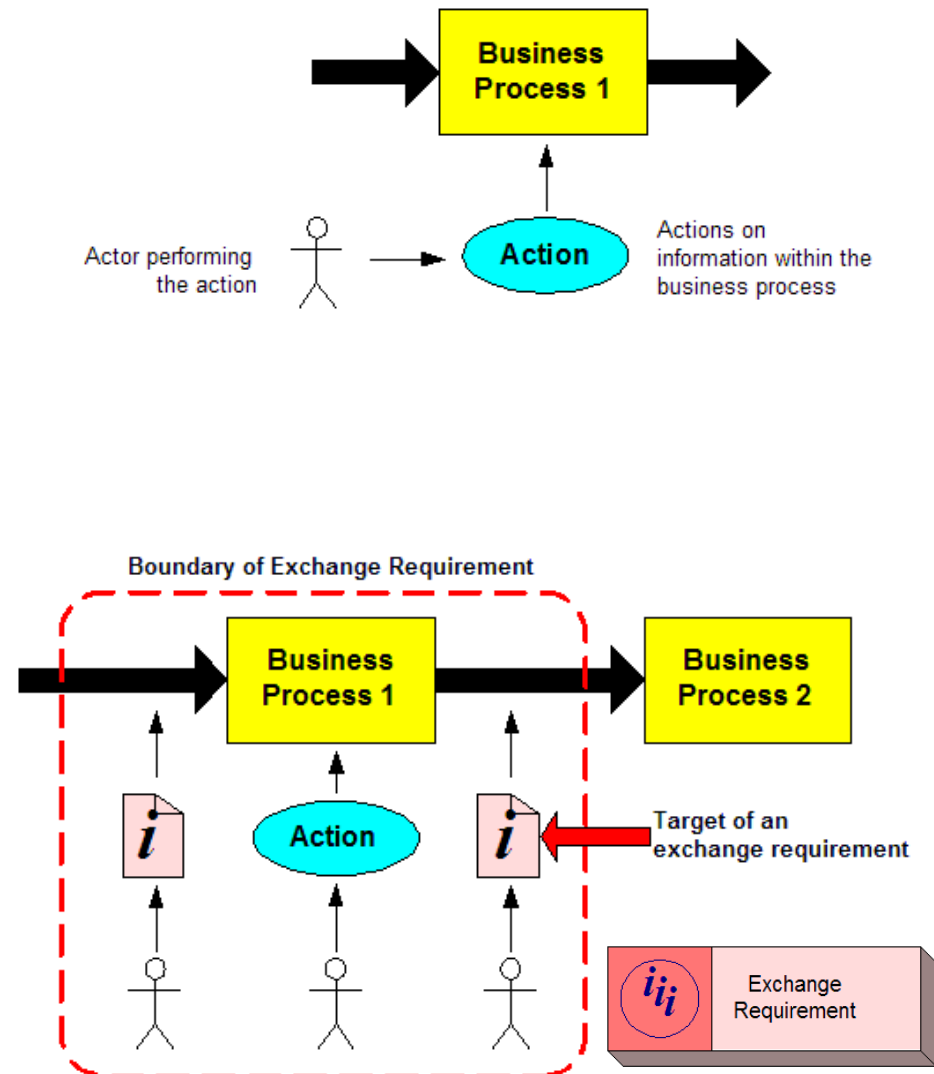


Functional Part



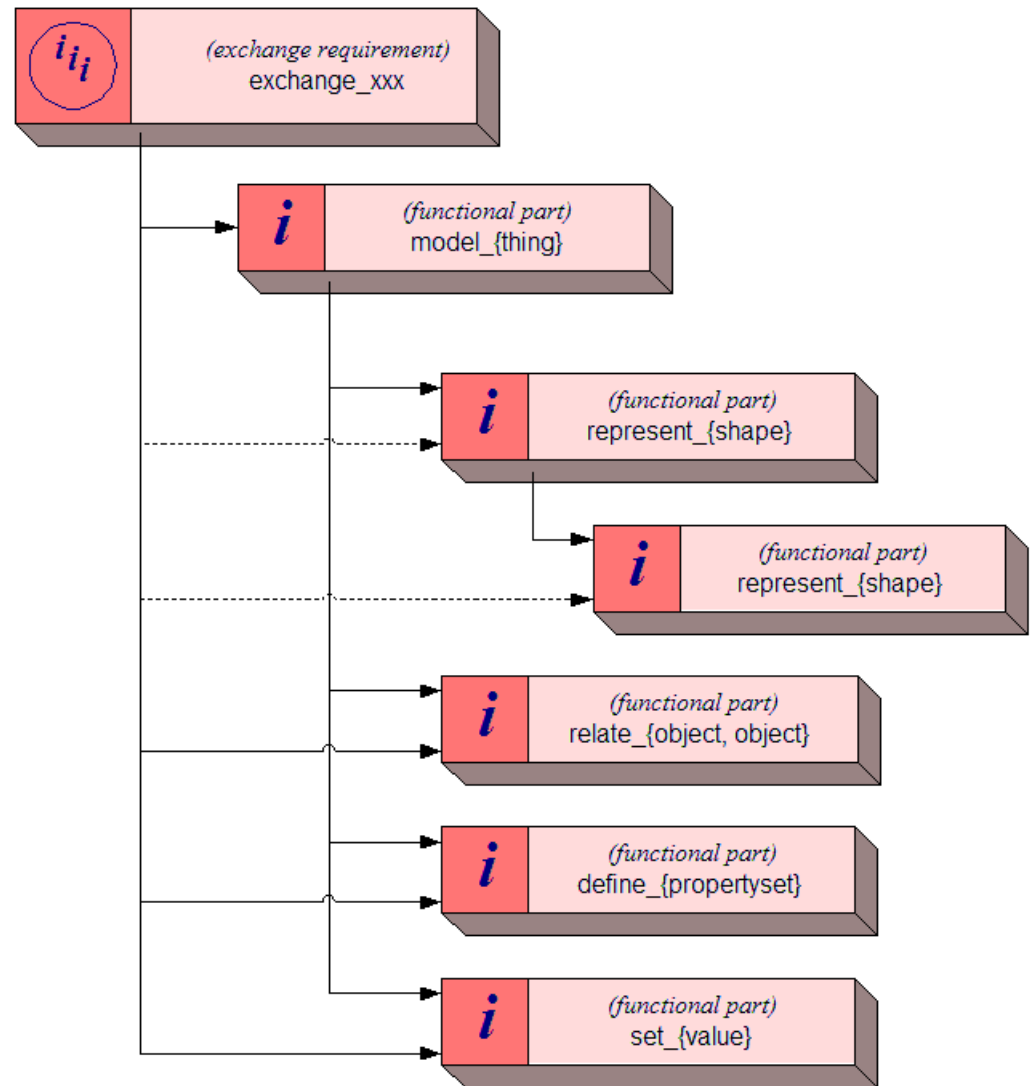
Exchange requirement - basics

- ▶ **Actions are carried out to:**
 - ▶ set the value of an item of information (data)
 - ▶ change an existing value
- ▶ **An ER captures the role of actors**
 - ▶ performing the action
 - ▶ providing the input
 - ▶ benefiting from the output
- ▶ **The target of an ER is the resulting output information.**
 - ▶ it is a set of information that can be exchanged
 - ▶ it is NOT the process

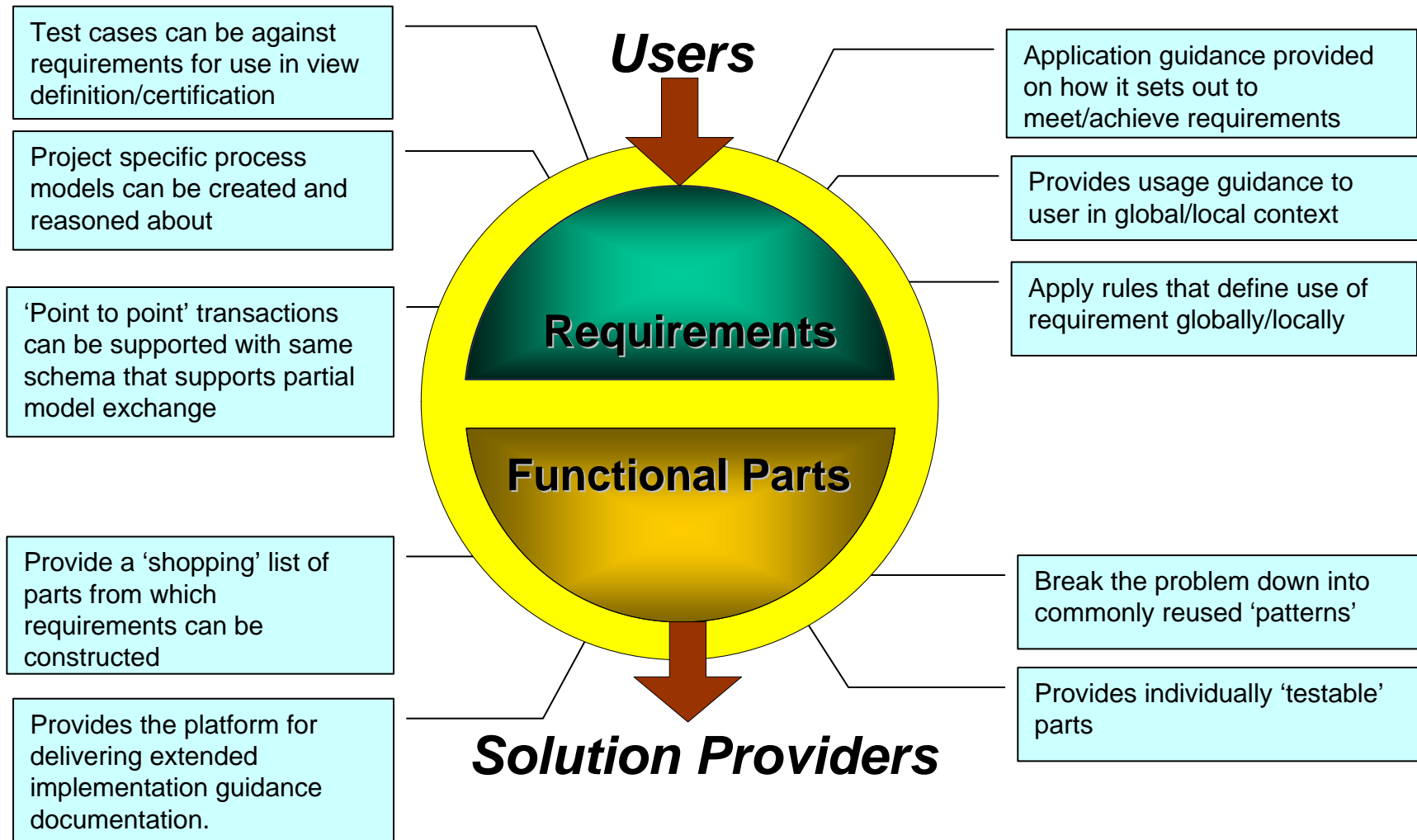


Making an exchange requirement

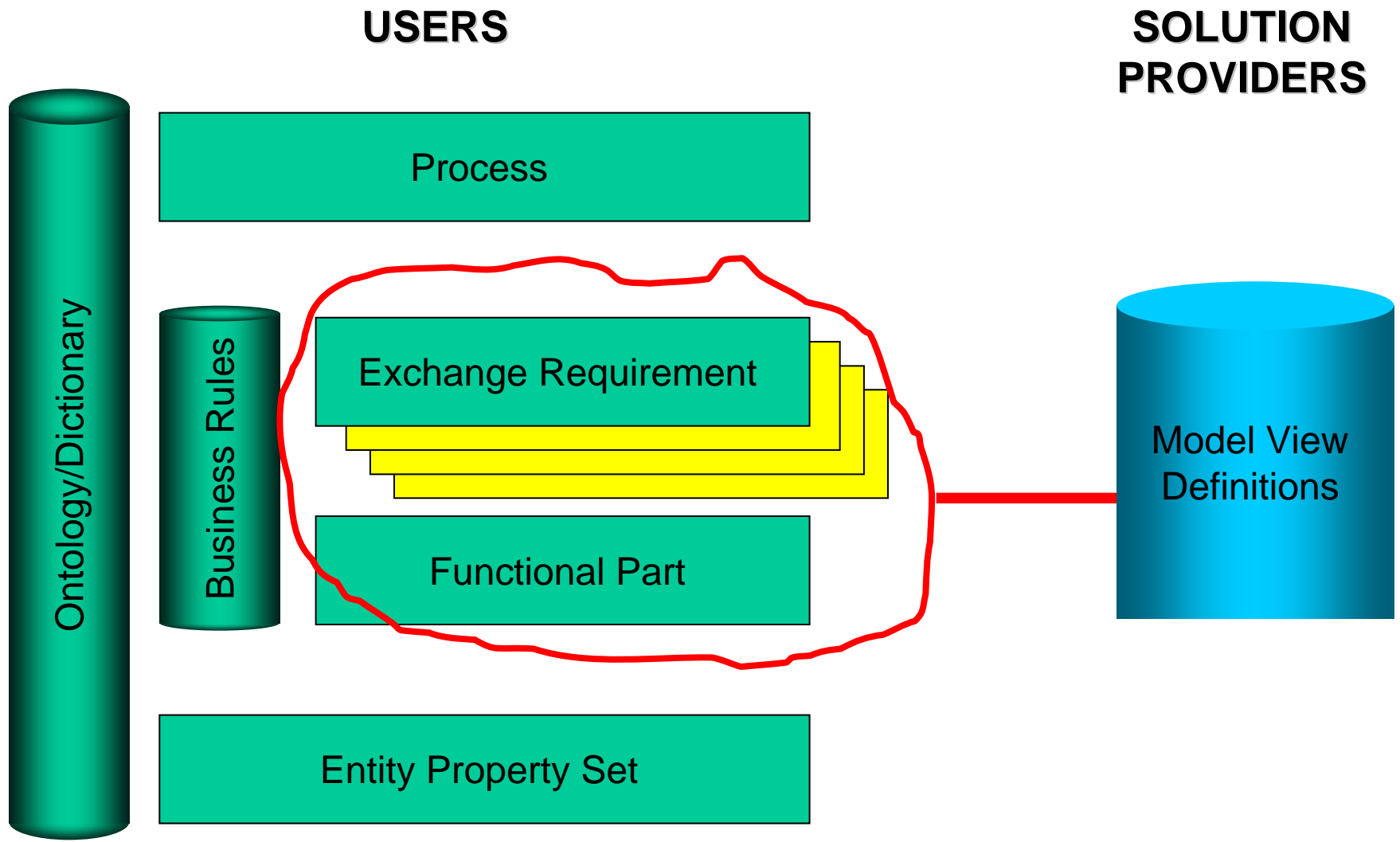
- ▶ Set the exchange requirement
 - ▶ fix stages
 - ▶ describe overview
- ▶ Define actions
 - ▶ For each action
 - ▶ describe action
 - ▶ specify properties
 - ▶ assert mandatory or optional
 - ▶ set required values
 - ▶ identify functional part



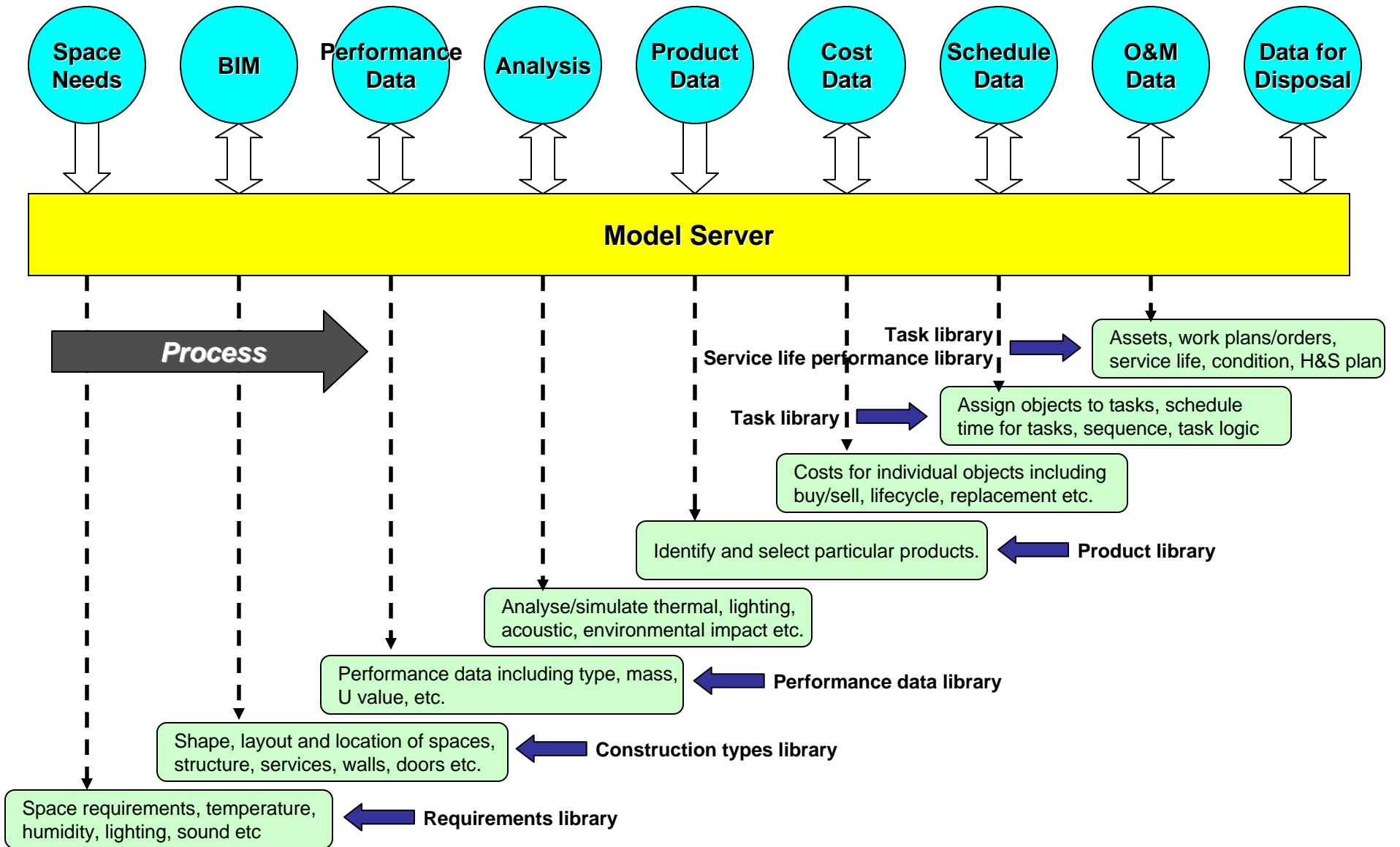
The wider view



Connection between the IDM and Model Views



Property information from libraries/catalogues



Framework of Information For Construction

