

BPie = BeePee

BPie/IDM for programming

Client Requirement management

Problem owner: Public clients/owners

Sending: Programmers

Receiving: Designers

Presentation by: Ole Kristian Kvarsvik, Nosyko/dRofus

What is BPIe/IDM for programming?

An attempt to **standardize** through **buildingSMART** the way we define **requirements** to a building project.

What is *Building Programming* ?

“Building programming is the process of collecting all requirements the building must fulfill.”

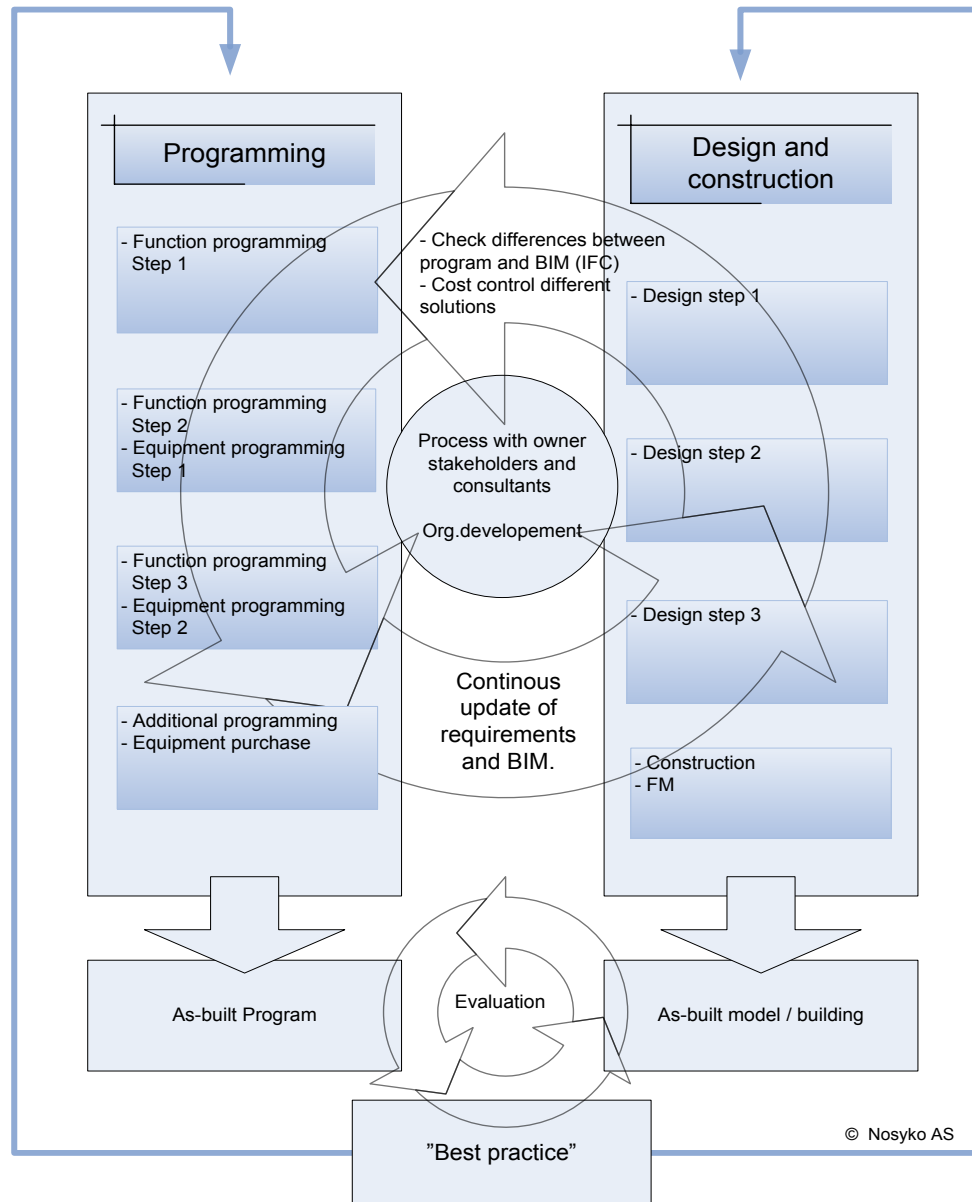
(IDM work group, 2008)

Background

- Requirements Management Problems:
 - The main focus in building projects is usually in **cost management**, and main single cost factor is the size of the project.
 - Detailed comparisons of area requirements and design solutions using **traditional methods is time consuming and error-prone.**
 - Often some of the detailed **client requirements disappear**, and thus the end-result does not meet the expectations.
 - Requirement history/log is often stored and organized **in the mind of the personnel** involved in the project. As public projects can be long-lasting there is often changes in staff through the project, with a loss of data consequence.
 - In addition, process is iterative and **requirements also evolve but usually changes are not updated systematically.**

Why client requirement management

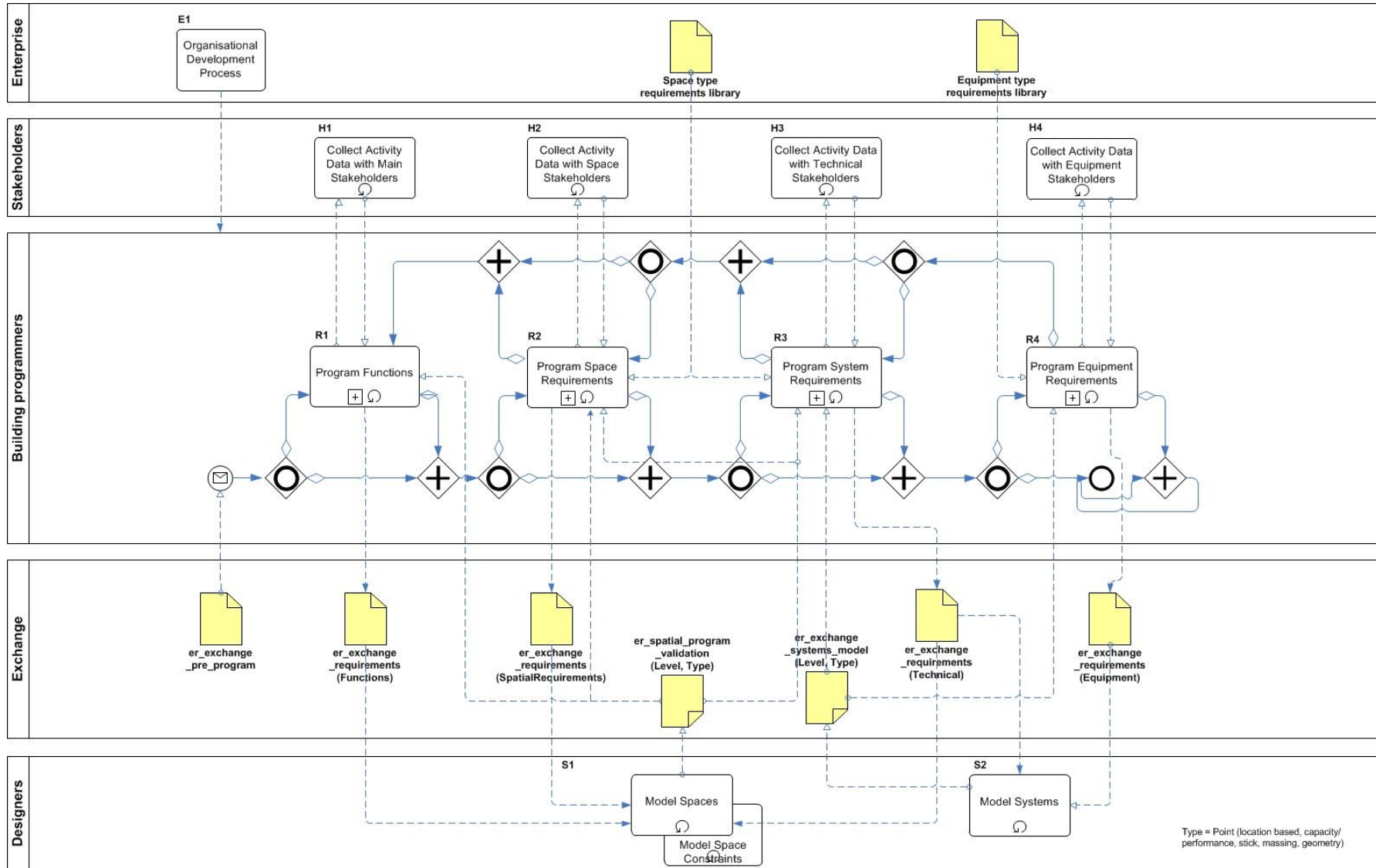
- The requirements set to a building functions, spaces and components is the clients:
 - Interpretation of the **building owners need**
 - **Specification of a buildings performance** needed to support its function
 - Order/job **description to the design team**, i.e. scope of the contract
- Through project development there **will be changes...**




The iterative process of client requirement management

- Standardized Requirements model
- Exchange and present requirements in design tool
- Exchange and compare design to requirements
- Deviations trigger minimum one of the following actions:
 - Update design
 - Update requirements
 - Present delta
- At handover
Requirement=Design=As Built
- All data exchange using open BuildingSMART standards

Proces Map

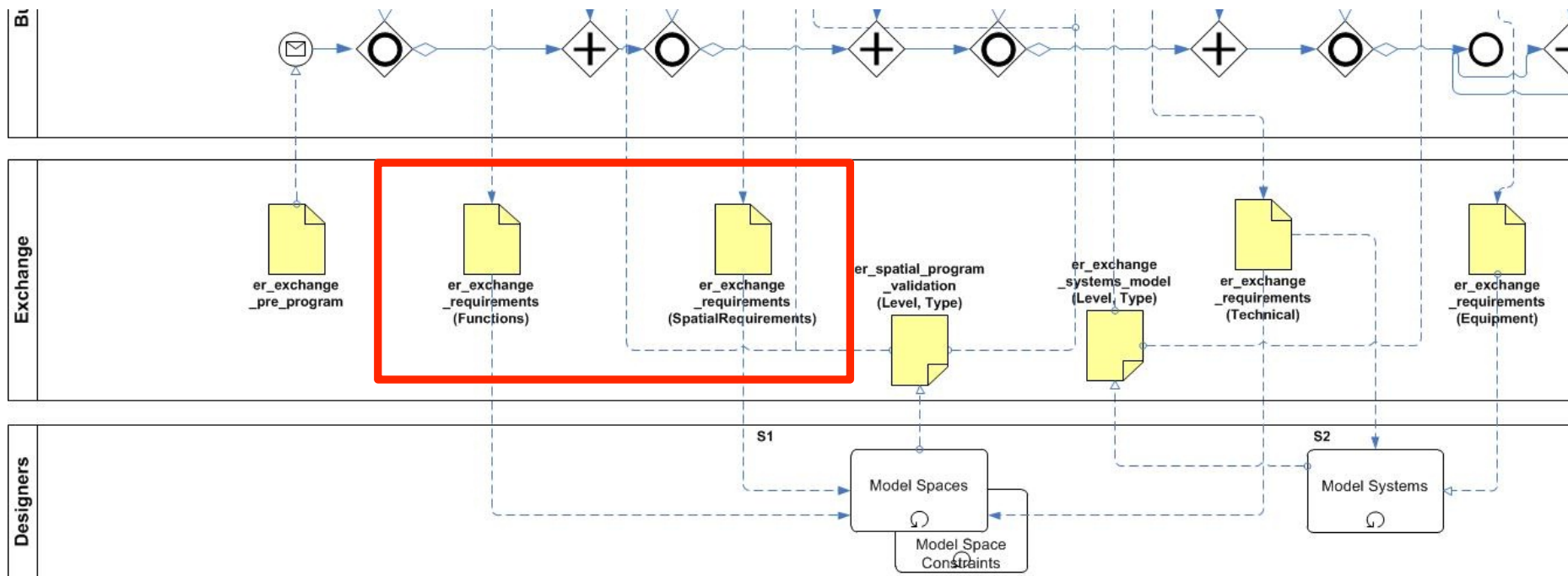


Type = Space Relationship Matrix
 Bubble Diagram
 Massing Model
 Space Function/Type Identification
 Equipment in Space
 Level = Main, Detailed, Unitary

Building programming	Authors: IDM Building Programming Group Version: 0.5 Status: Working	Created: 01/02/2007 Modified: 29/01/2010 Modified: 19/09/2011	0.2 - Room functions corrected 0.3 - Gateways added for routing 0.4 - Modifications from Holmenjford	
PM_Building_Programming	© International Alliance for Interoperability 2007-2010	bpmn_space_programming	0.45 - Removed Zone 0.5 - Included ER Space program in ER SpatialRequirements	
© International Alliance for Interoperability 2007-2010				

Exchange Requirements

- Functiones and spatial requirements covered
- Ekiupment (FF&E) and systems – not yet defined



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Goals

- Standardize a Requirement Model Specification with sufficient flexibility i.e. making it **internationally robust**
- Present relevant requirements in the **designers interface/ design tool** (Architect and Building Services)
 - Define the Exchange requirements and binding to BuildingSMART standards (the open “Transport format”)
- **VALIDATION**: Enable clients to **continuously compare design against requirements** and keeping requirements up to date.
 - Define relevant areas for comparison/checking/validation and prototype.

ER work group (2010/2011)

Name	Organization
Frode Mohus	Statsbygg
Thomas Liebich	AEC3/bS International
Konrad Stuhlmacher	AEC3
Reijo Hänninen	Granlund
Tuomas Laine	Granlund
Arto Kiviniemi	VTT/Granlund/Salford University
Ole Kristian Kvarsvik	Statsbygg/dRofus
Rolf Jerving	dRofus
Steen Sunesen	buildingSMART Norway

Other chapters are welcome...

Previous steps – presented in Oslo March 2012

- Business need – Program validation
- Previous bS efforts/resources – set the scope and framework
- **Kick off: 2007**
- Define (international robust) Process map
- **International working group**/experts defining the process need (ER's)
- submitted to buildingSMART International for a review and acceptance process to be finally **distributed as an buildingSMART International IDM**
- **Dec. 2011 – adopted by bS Alliance Challenge**
- Review/allign – previous bS projects.
- Final definition/acceptance
- **New project proposal to buildingSMART – Extension Project**

(BPie) since March 2012 ->

BPie is part of the **COBie specification**

<http://buildingsmartalliance.org/index.php/newsevents/proceedings/buildingsmartchallenge13/>

<http://www.buildingsmartalliance.org/index.php/projects/activeprojects/31>

Included in the “**buildingSMART alliance January 2013 Challenge**”

<http://buildingsmartalliance.org/index.php/newsevents/proceedings/buildingsmartchallenge13/>

Since the BuildingSMART meeting in Oslo

- Mapping to ifc has been completed for the challenge
- Test-/implementation files produced
- “BPie – COBie translation” implemented in COBie tool, BIMserver.org
- First submittal for the challenge uploaded by participating vendors 30th September

To do...

- Update documentation – IUG webpages
- Move forward with extension project
 - Formal project proposal and approval
 - Funding for extension project and Phase two of BPie (equipment/FF&E + system requirements)
- Prepare for next bS Alliance challenge
 - This time including program validation...? (i.e. compare requirement to solution)

Summary

- Since the Oslo meeting, most of the activity has been related to producing documentation, testfiles and implementation for the **buildingSMART Alliance January 2013 Challenge**
- Now to focus on bS processes: IFC Extension Project and End-User Validation.