

Integration of business modeling and IT modeling

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Problems of Business process modeling

- Universal modeling languages UML and BPMN are created by IT people for IT people and are not easily understandable by business people
- Model syntax prevails over model's semantic meaning

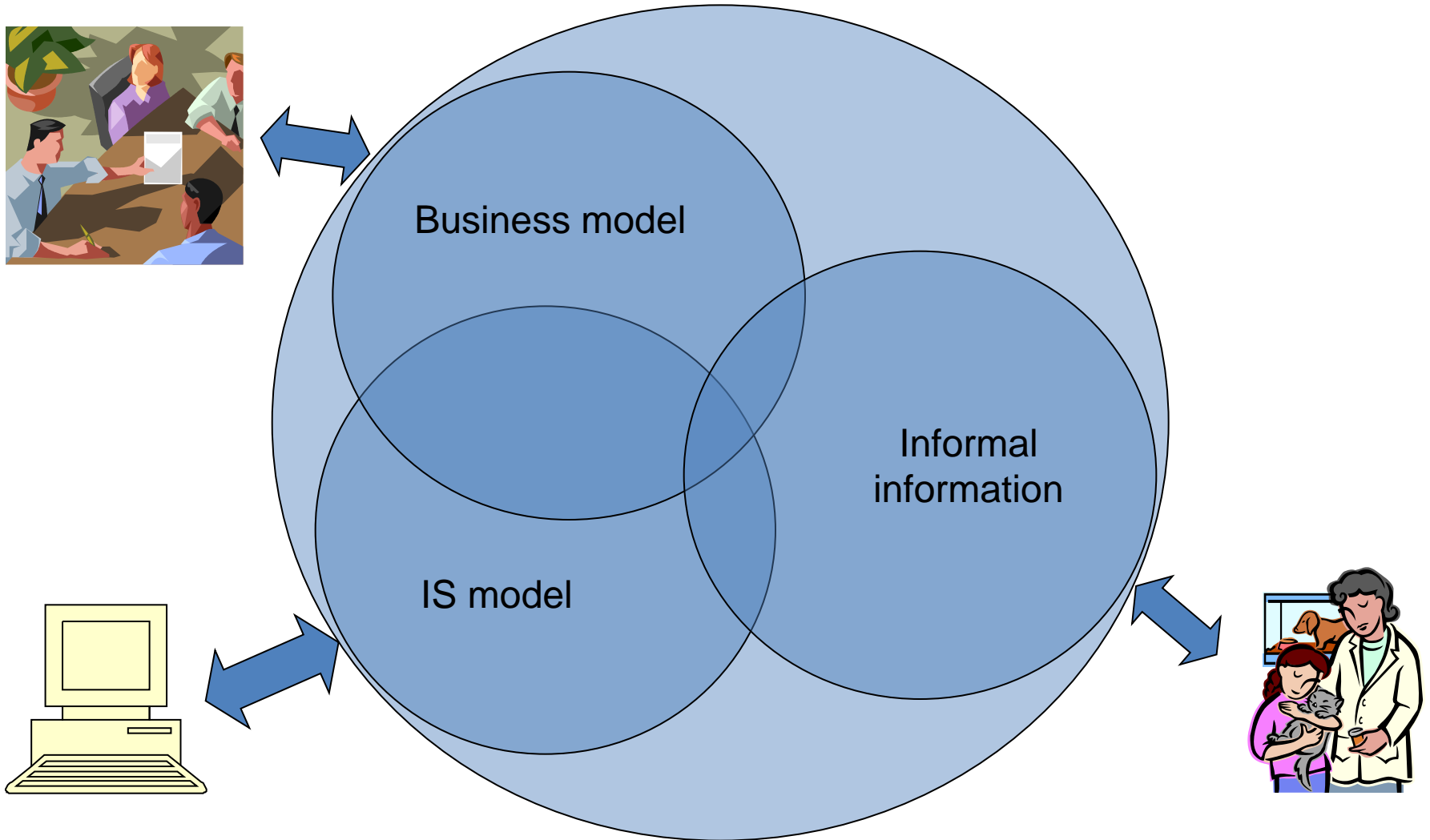
Our approach

- Focus on model semantic according to model application
- Domain specific information and informal descriptions are assigned to model objects (activities/tasks/transitions)

Models applications

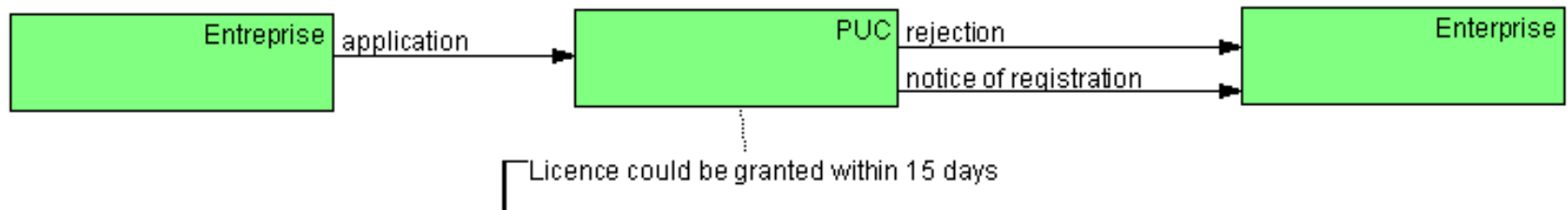
- Model as a business process description
- Model as definition of process
- Model serves as a requirement specification (IS diagrams)
- Model as a basis for IS operation

One model – many applications



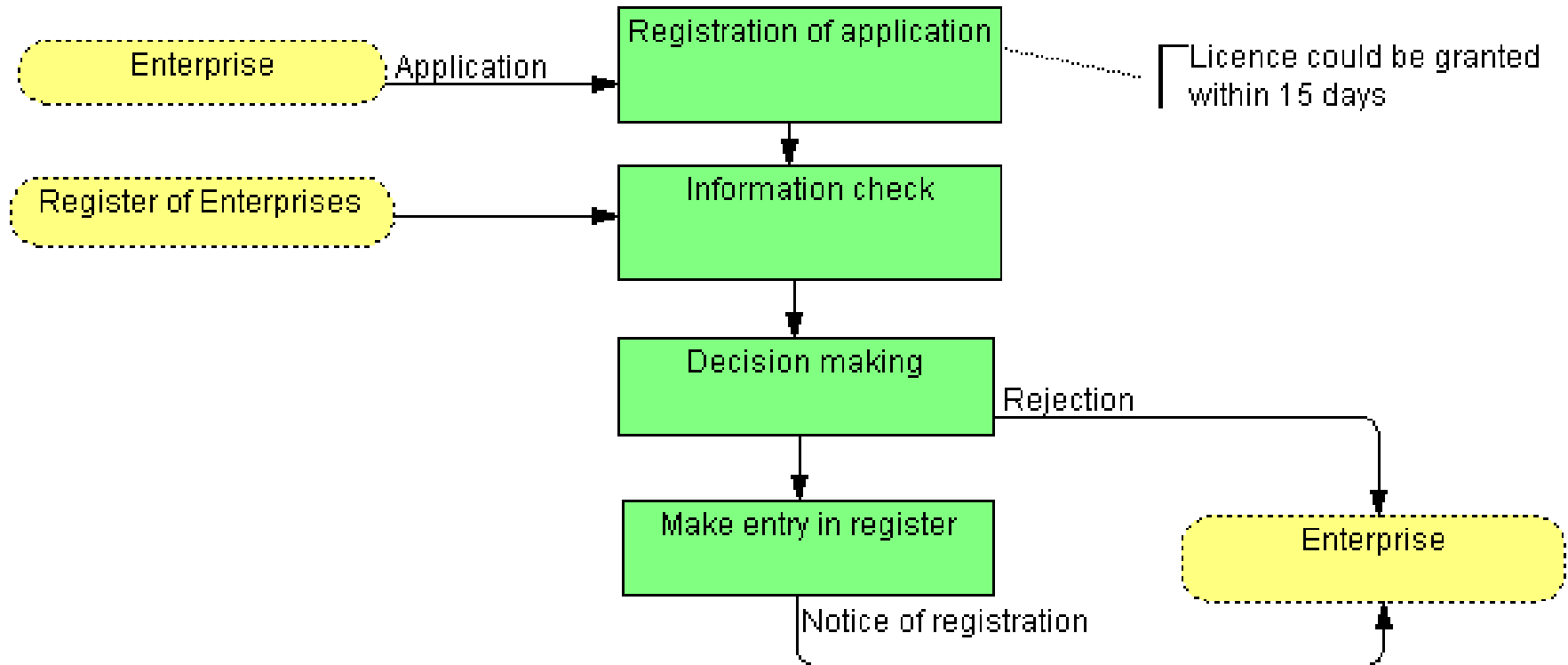
Model as a business process description

- Used to understand business process
- Business people intuitively understand model syntax and semantic
- Informal



Informal enterprise registration process model created for clients to easily understand business process

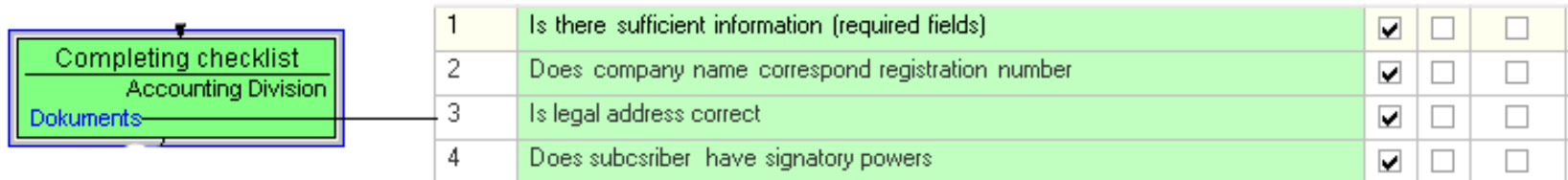
Model as a business process description



Informal enterprise registration process model created for business people to easily understand business process

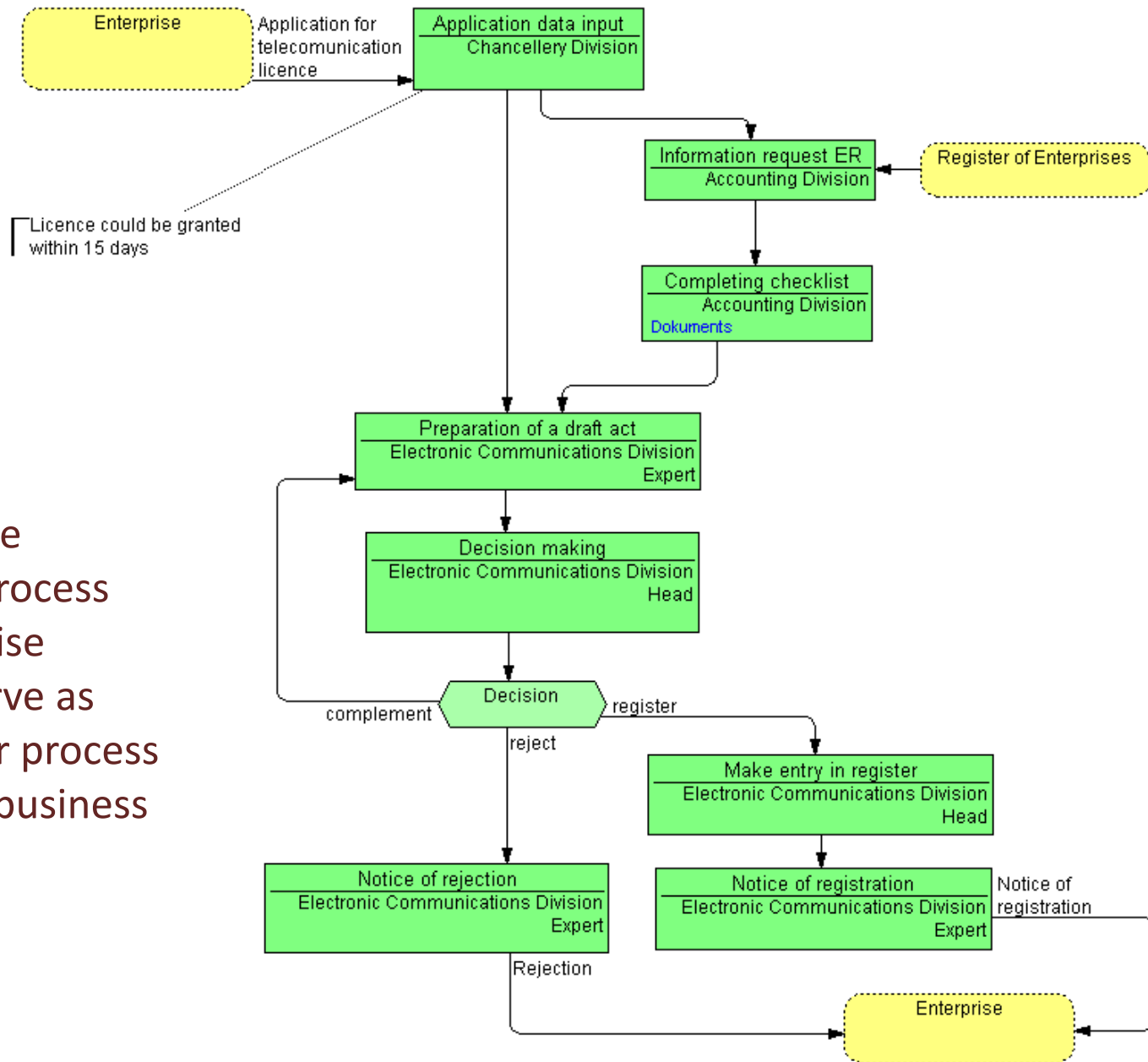
Model as a definition of process

- Used as instructions to run process by business people
- High level of formalization and precision (~98%)
- Links to external documents, forms etc.



Example of document attached to one step of the model

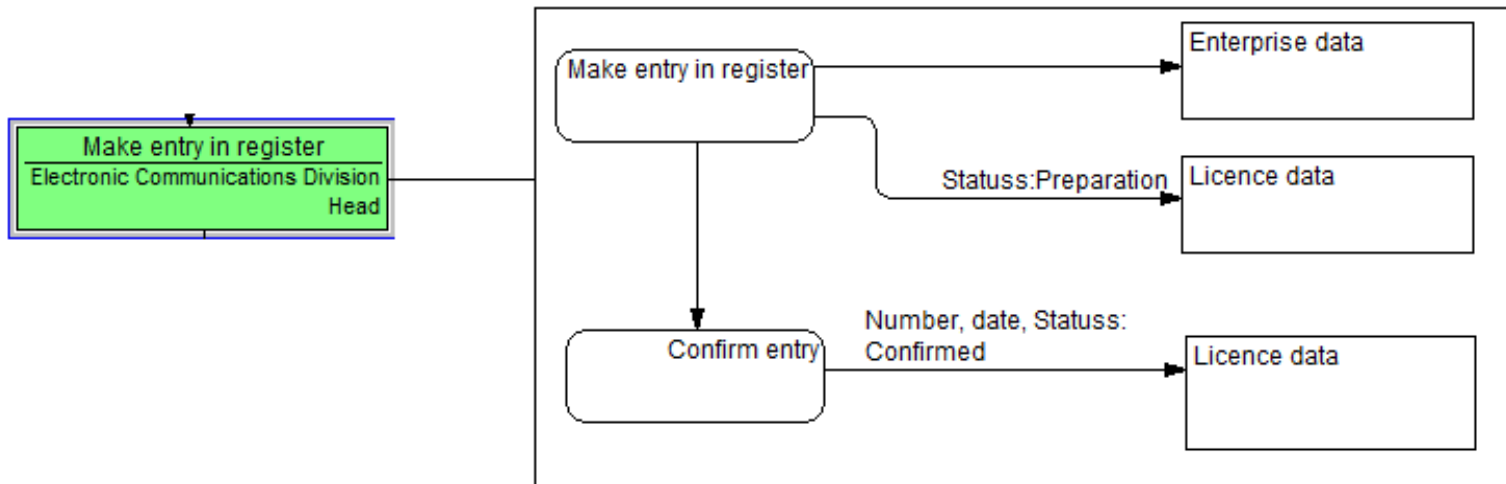
Model as a definition of process



This enterprise registration process model is precise enough to serve as instruction for process execution by business people

Model serves as a requirement specification (IS diagrams)

- Must be precise enough to serve as requirements specifications
- Usually is some type of detail of previous models



Model step refinement for requirement specification

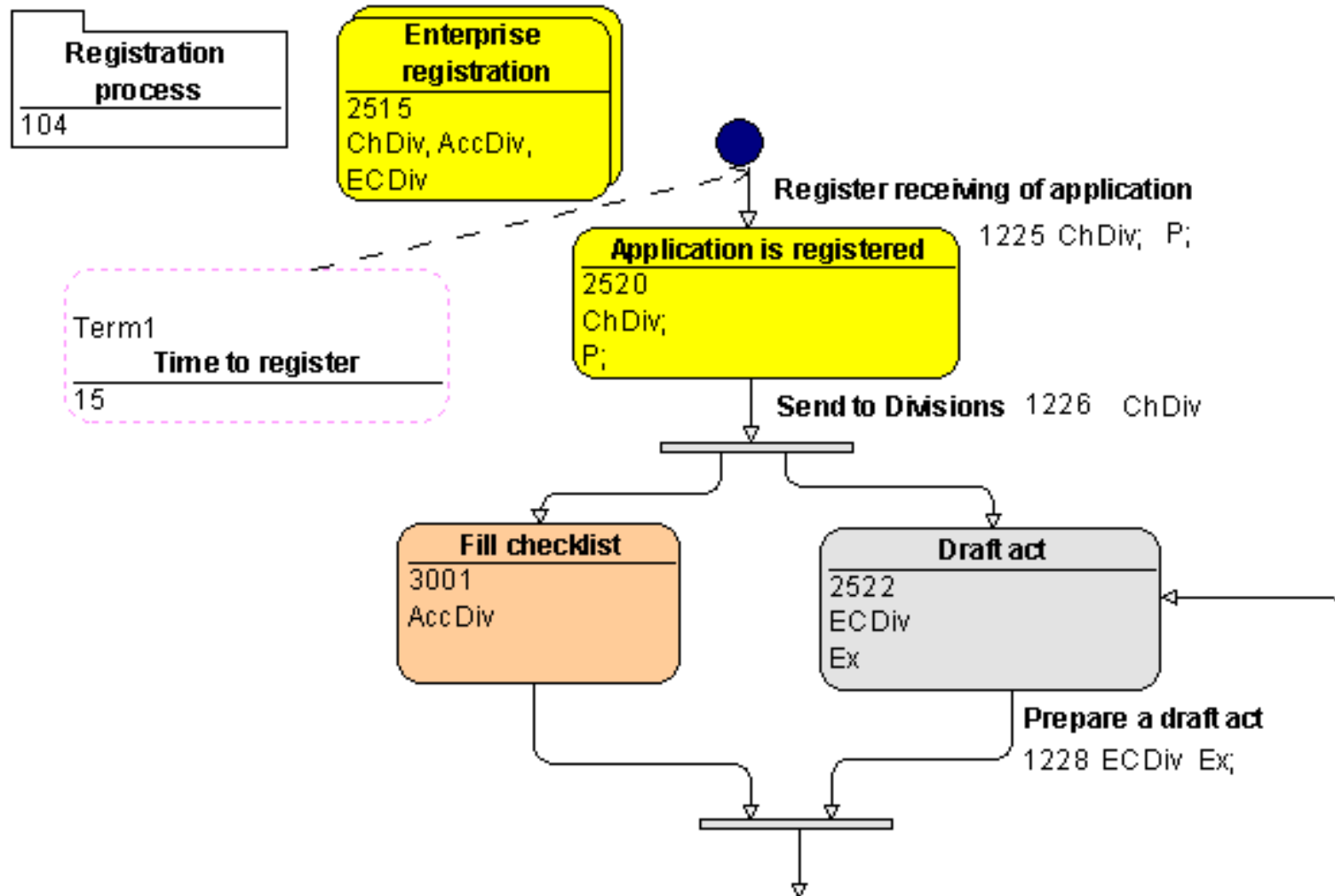
Model serves as a requirement specification (IS diagrams)

- Serves as a basis for development of software functional requirements containing data input, data output, data processing and data verification
- Determines, which business process fragments should be implemented in information system and became fully automated, and which should remain manual even after information system is introduced
- Allows to make analysis who uses what data
- Can serve as a basis for creation of test cases for software testing

Model as a basis for IS operation

- Information system understands and interprets defined model
- Model is 100% precise
- Parts of model might be hardly understandable by business people

Model as a basis for IS operation



Enterprise registration process model created in modeling language Bilingva

Model types attributes

	Process description	Process definition	IS requirements specification	Basis of IS operation
Semantic precision	Very low formalisation	High formalisation	Very high formalisation	100% formalisation
Syntax precision	Very low formalisation	High formalisation	Very high formalisation	100% formalisation
Step name	Yes	Yes	Yes	Yes
Step description	Might be	Yes	Yes	Only for human. IS does not need
Performer	Might be	Yes	Yes	Yes
Time limits	Might be as informal coments	Yes	Yes	Yes, in absolutely formal form

Positive Experience

- Proposed process modeling methodology is successfully examined in workflow type systems
 - For other types of systems the situation may differ
- DSL definition and modeling tool definition platform plays one of mayor role for DSL usage
 - It is practically impossible to implement in real life methodology we describe without such platform

Positive Experience

- At the beginning business people are able to create only informal models. After some time they started to ask for more precise models
 - Business people are able to read precise models after very short learning period
 - It took 6-12 month for business people to start develop precise models that can be served as precise work instructions
 - Full adaption took 2-4 years

Positive Experience

- DSL allows create single unified model within organization for all four usage scenarios
- Users can easily understand meaning of models and use models if business process semantic is bind to the model objects
 - Syntax does not matter very much
- DSL building is one of the easiest way to bind semantic of the specific domain to the model

Other Experience

- It is hard to describe all of the sector specific requirements in universal modeling language (UML and BPMN)
 - For example, hard to access informal model description stored in enterprise IS
- There is very positive attitude of users towards graphical specifications
 - More than 95% users prefer graphical model

Problems

- Definition of DSL and development of modeling tools requires involving high qualification specialists
- Enterprise specific DSL development and business process definition is individual as enterprise specific IS development
- DSL defined for needs of one company is hard or impossible use in other company even if the companies' profiles are very similar
 - DSL for each enterprise contains nuances specific for each enterprise
 - Previously developed DSLs can be used in the very beginning of modeling and help to recognize specific of new domain

Thank You