Module 1-5(a)

Model-driven Software Development (MDSE) for the Cloud

Business Modelling Scoping – How to scope your software development

Outline

- Roadmap
- Recommended workflow
- Tasks and corresponding Work products
  - Examples
  - Guidelines
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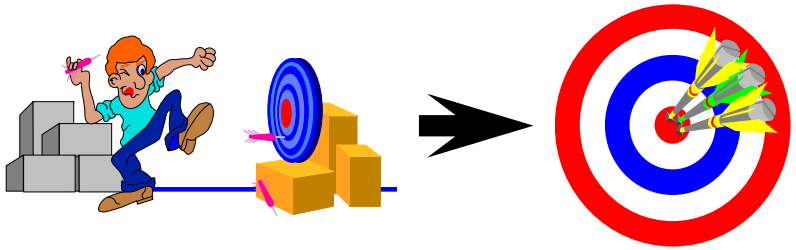
Practice: Business model scoping

- Purpose
  - To scope your business modelling by defining a set of scoping statements.



- Contents
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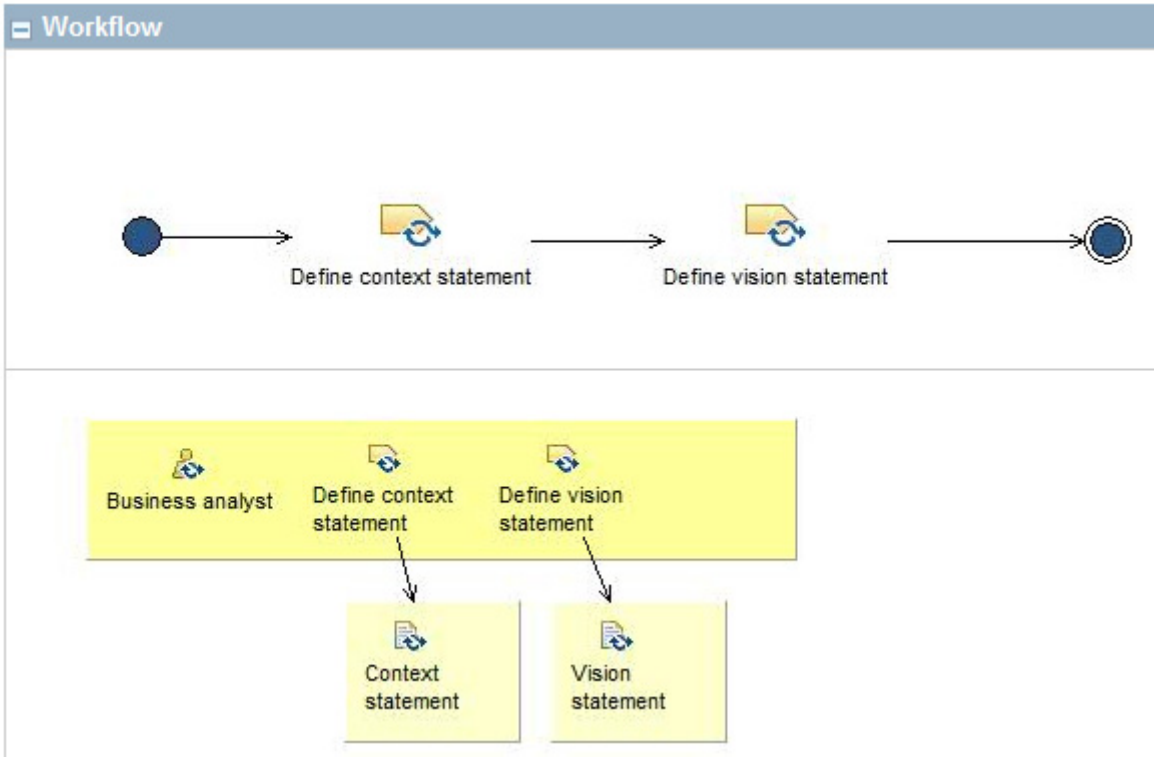
  - Vision statement
  - Define context statement
  - Define vision statement
  - Define scoping statements
  - Business analyst
  - Stakeholder
  - buildingSMART: Rich picture
  - Sport event: Rich picture

Roadmap: How to adopt the business modelling scoping practice

- This practice describes how to scope your business modelling by defining a set of scoping statements. A set of scoping statements consisting of the following:
  - Context statement, which defines the scope and positions this business model in its context.
  - Vision statement, which describes what to improve, the motivation (i.e. what is wrong with the current situation), a description or indication of what the improvements might be and a gap analysis.

Recommended workflow: Define scoping statements



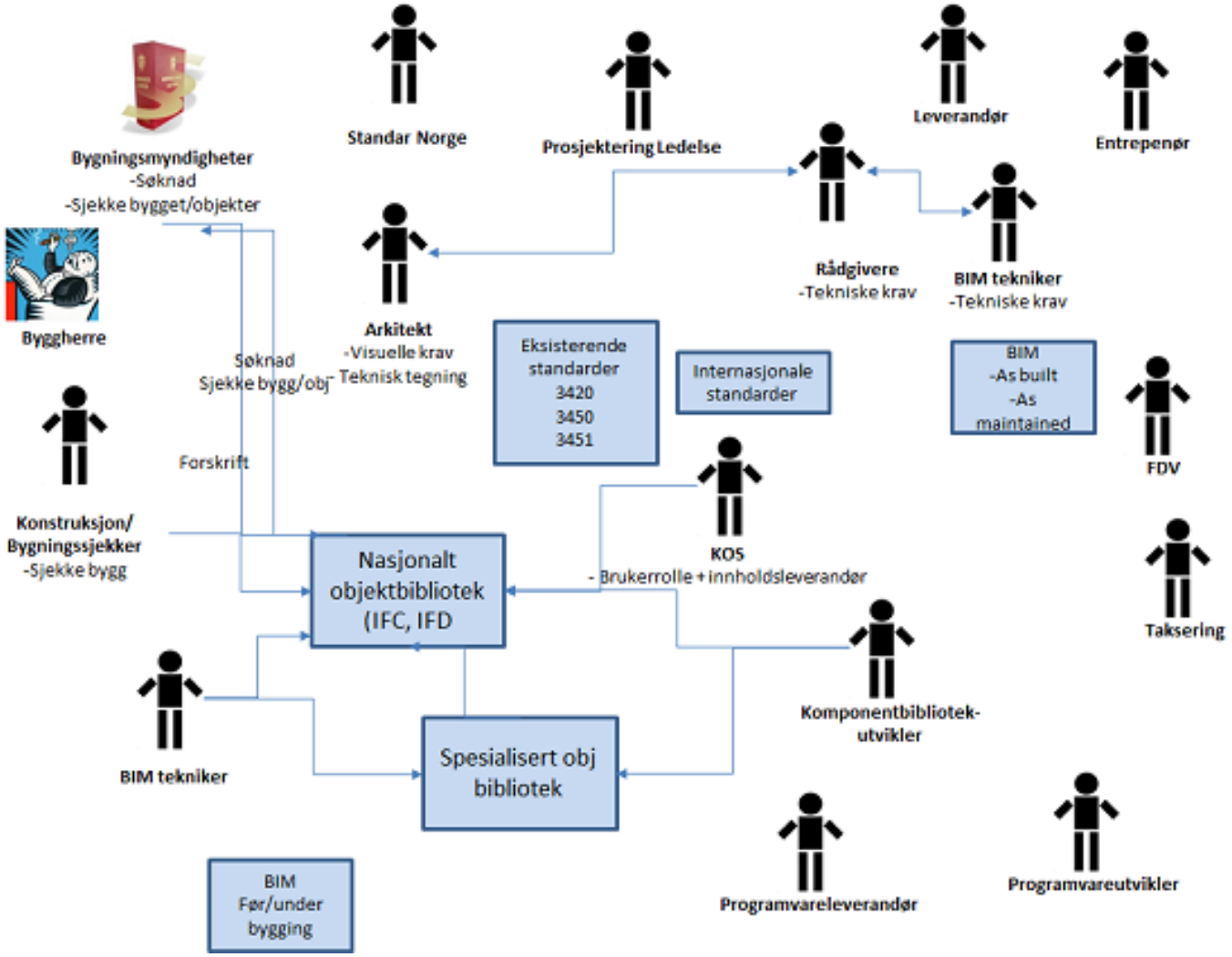
Task: Define context statement

- Purpose
  - To define the scope of a business model and to position it in its context.
- Steps
  - 1. Identify stakeholders
  - 2. Define context statement
- Output
  - Context statement
- Roles
  - Business analyst
  - Stakeholders (domain experts and technology experts)

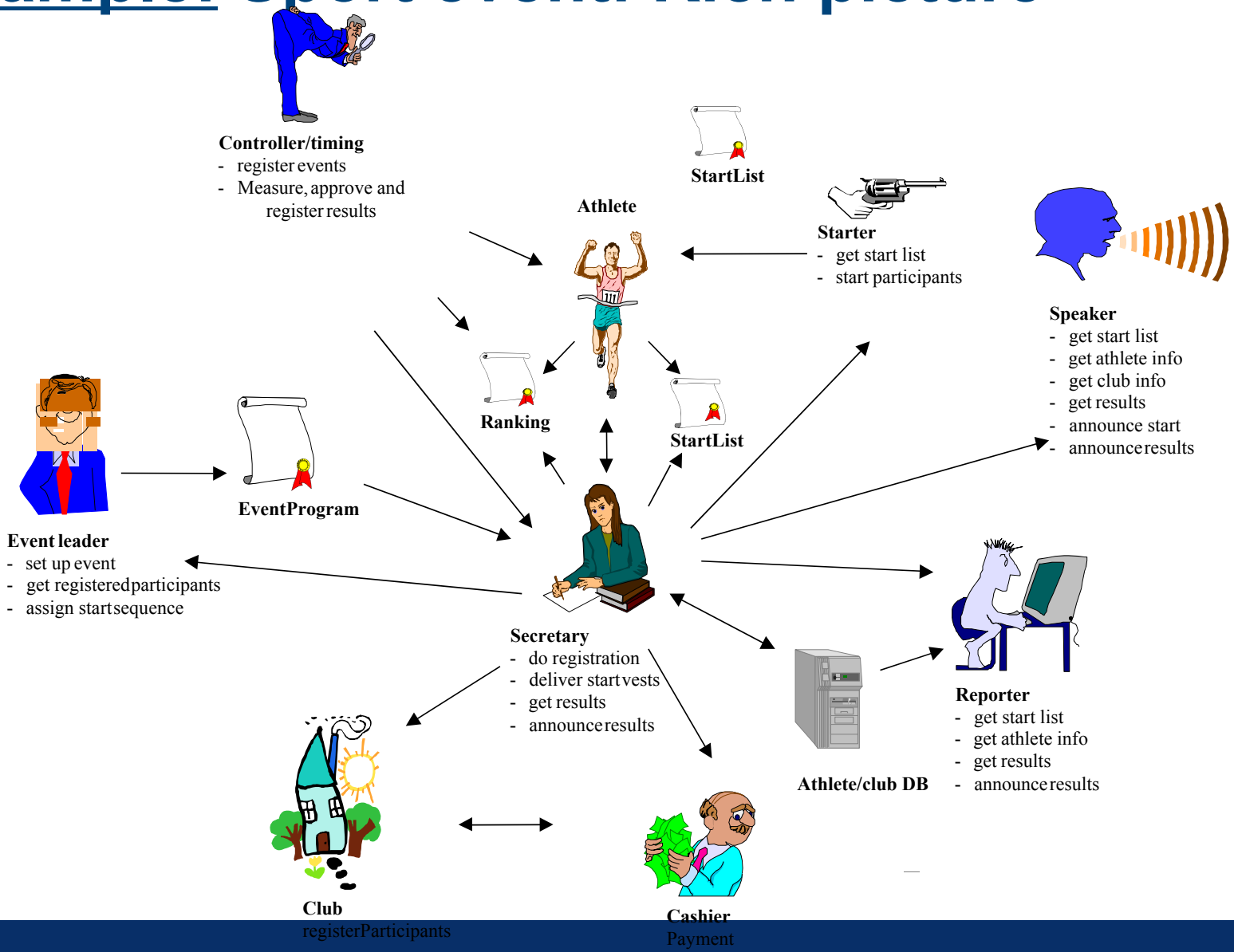
Work product: Context statement

- This work product is typically a domain model describing the what and its context. The domain model can be shown as a rich picture that includes the main concepts, their relations and interactions
- The Context statement should describe the following:
  - Business level: business value, criticality, …
  - Domain model in a rich picture (or more formal) including main concepts, their relations and interactions
  - Architecture level: current architecture (high level) with interactions, components, topology and deployment
  - Technological level: existing artefacts, platforms, technologies
  - Organizational level: people and competences
  - Problems with the current system or solutions
- Examples
  - buildingSmart: Rich picture
  - Sport event: Rich picture
  - Sport event: Domain model
  - CVIS: Rich picture
  - MIS: Rich picture

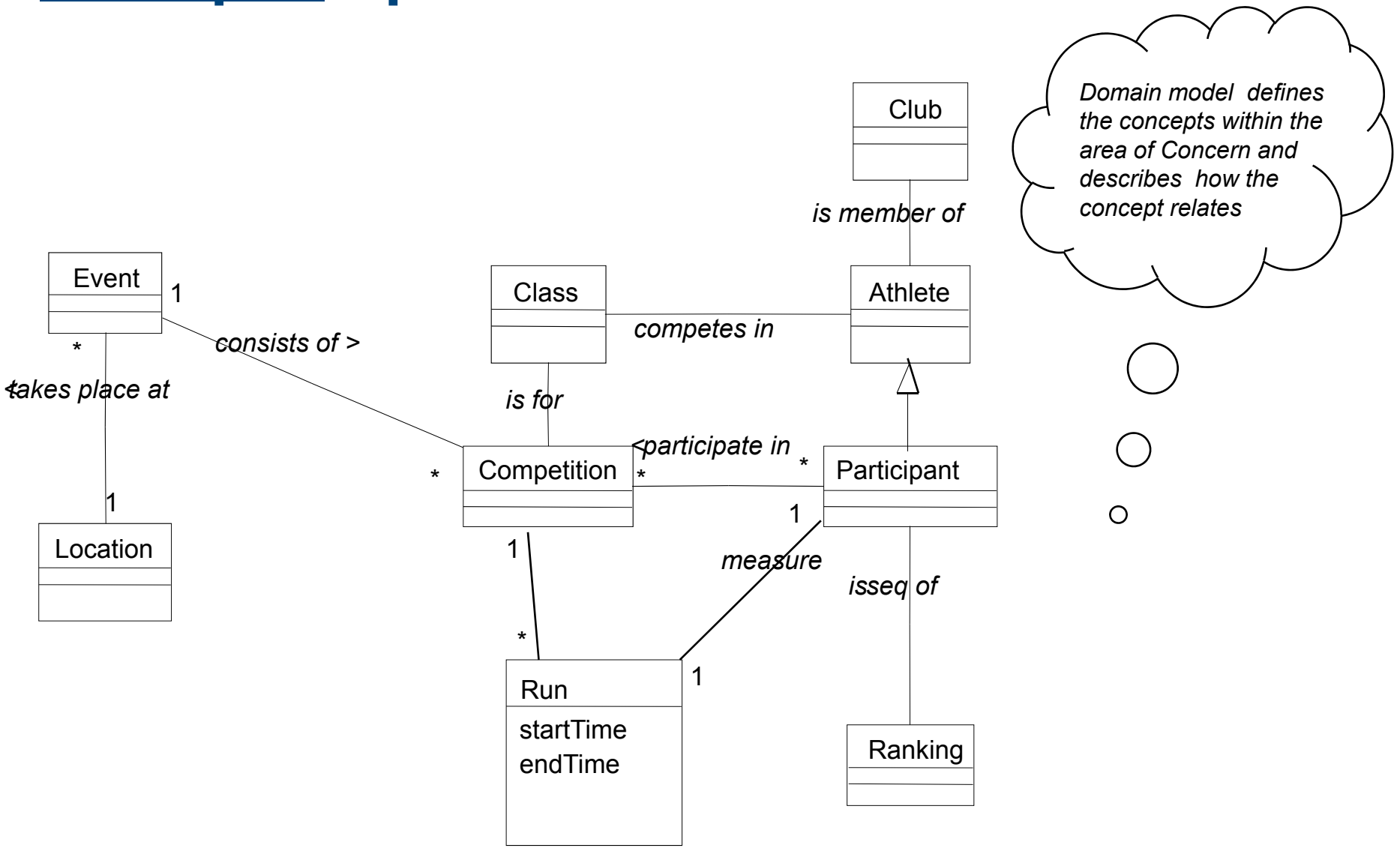
Example: buildingSmart: Rich picture



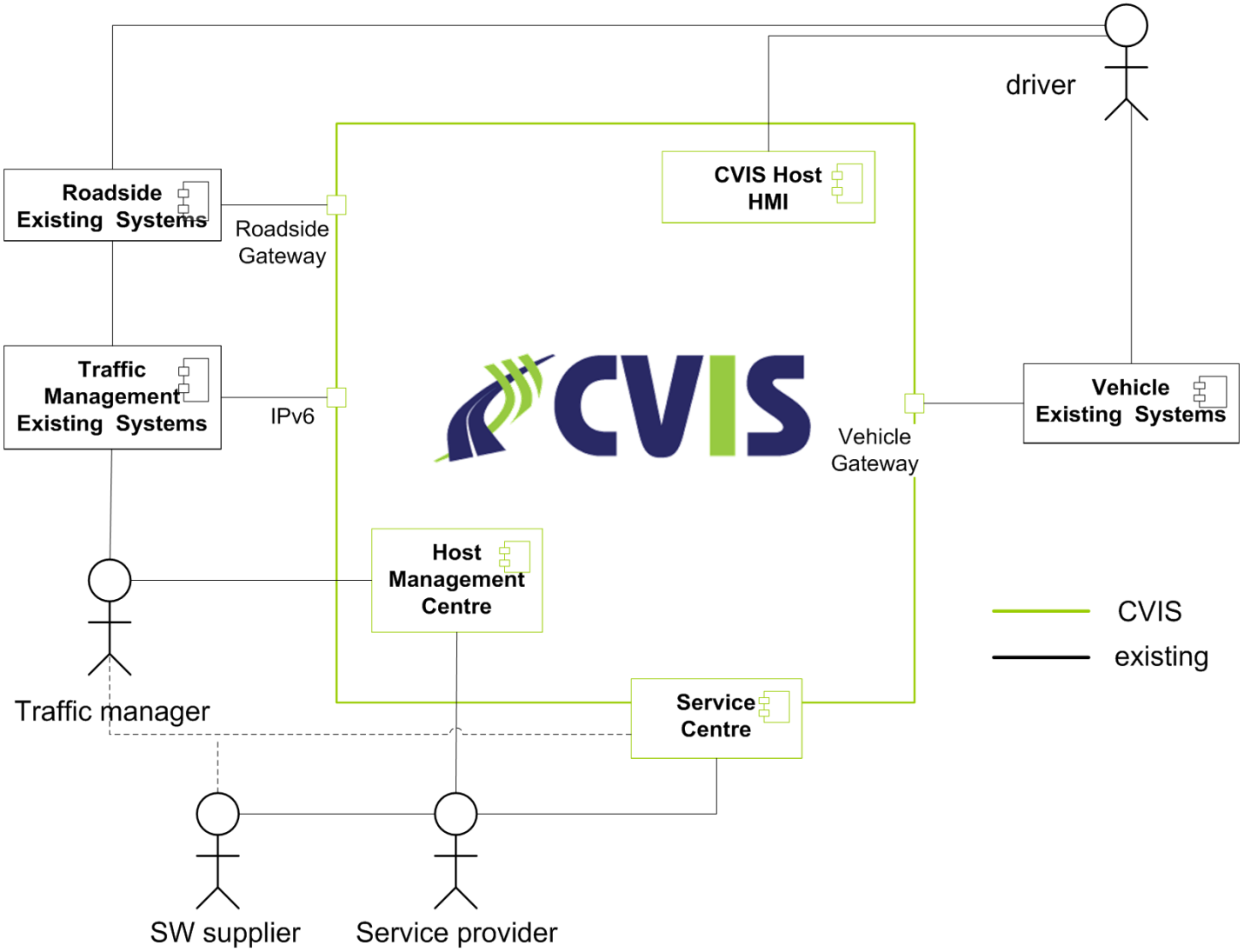
Example: Sport event: Rich picture



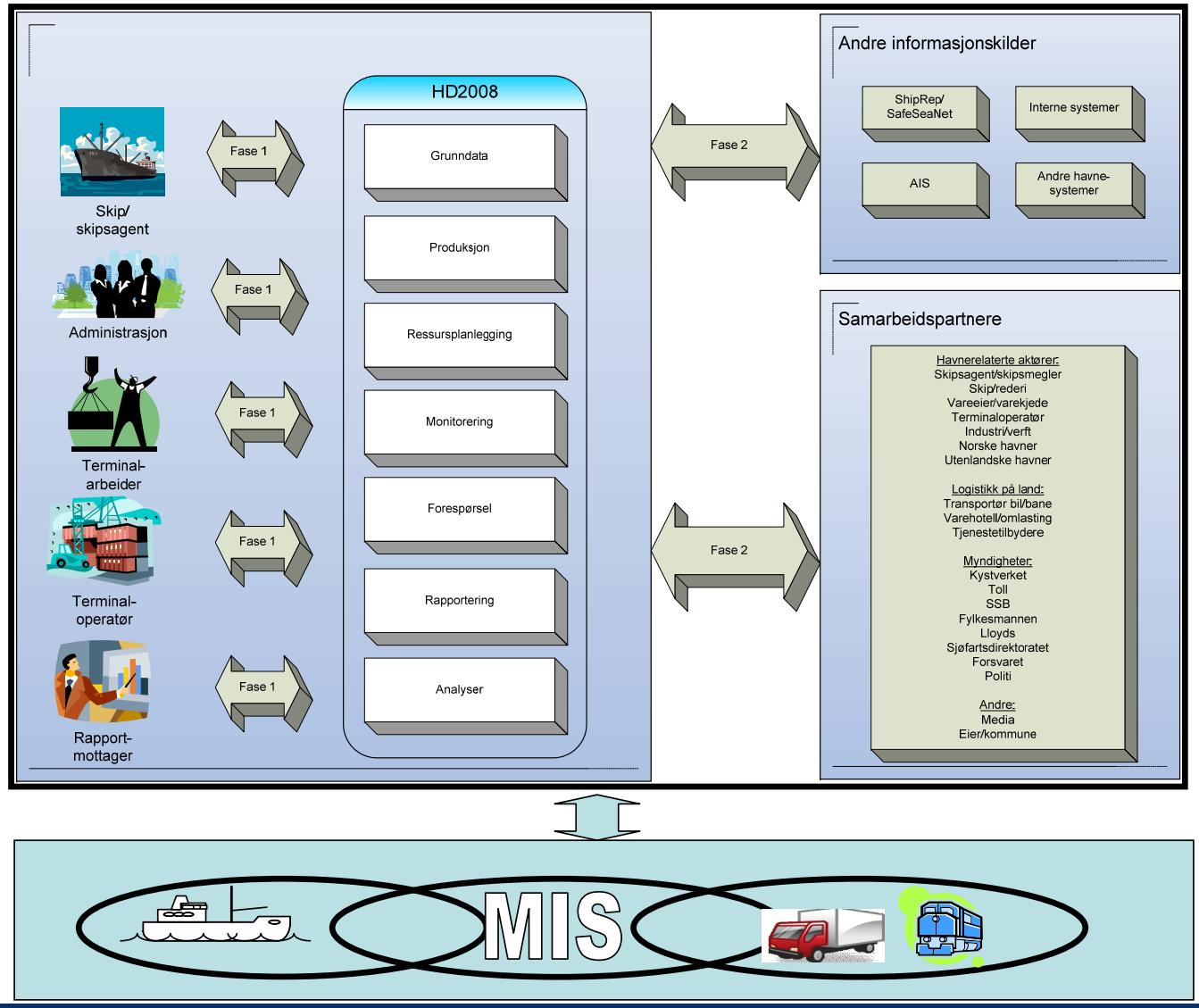
Example: Sport event: Domain model



Example: CVIS: Rich picture



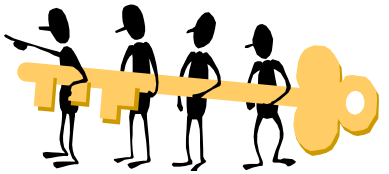
Example: MIS: Rich picture



Guideline: Context statement guideline

- General advises
  - Don't go into details
  - Be generic
  - Limit the time frame
    - Don't keep on forever (Avoid analysis paralysis)
  - The domain model should not end up as a complicated model
  - Don't attempt to identify system boundaries
- Information gathering
  - From domain experts, users, sales persons, the system (own or competing), user manuals and system documentation
  - Interviews
  - Search for existing domain vocabularies

- Rich picture (free format diagram)
  - common modelling sessions, brainstorming
  - Draw actors and things, indicate collaborations and processes by drawing arrows
- Define the key concept in the domain and show the relationship among them (Actors, domain objects)
  - UML class diagram
  - Ontologies
- Identify and describe the main processes (value chains) and activities.
- Describe actor interactions and actor responsibilities
  - UML activity diagram



Task: Define vision statement

- Purpose
  - To define a vision statement.
- Steps
  - 1. Describe opportunities
- Output
  - Vision statement
- Roles
  - Business analyst
  - Stakeholders (domain experts and technology experts)

Work product: Vision statement

- This work product should describe the following:
  - Opportunities and risks
  - Cost and schedule goals
  - Business goals
- This work product adds detail to the scope given in the Context Statement, so that Business Stakeholders can make informed judgements about approving the (appropriate phase of) development of the Product.
- This work product is a statement of what to improve, the motivation (i.e. what is wrong with the current situation), a description or indication of what the improvements might be and a gap analysis (a clear understanding of difference between the current and desired situations).
- Examples
  - Generic: SOA opportunities
  - Generic: Vision
  - Sport event: Opportunities

Step 1: Describe opportunities

- Opportunities are the set of circumstances that makes it appropriate to develop or change a software system. It helps shape the requirements for the software system and provides the business case for its development or change.
- Describe what you seek from the project at:
  - Business level: increased value, accessing new markets, etc.
  - System level: flexibility, maintenance, reusability, etc.
  - Technological level: new platforms, platform-independence, etc.
  - Organizational level: better understanding, increased competence on new technologies, access to trained people etc.
- These make a baseline for later evaluation.

Example: Generic: SOA opportunities

- Business:
  - Accessibility via internet
  - Adaptability to new business functions
  - Reusability
- Software development and maintenance:
  - Interoperability between services
  - Loosely coupled services that lead to maintainable and extendable architecture
  - Reusability
  - High-level abstraction of system in terms of services
  - Better communication and understanding
  - Models as long-term assets for maintenance
- Technology
  - Later binding to implementation technologies

Example: Generic: Vision

- Build a **robust** system that **simplify** the process of organizing a sport event and deliver **high quality** data to all stakeholders
- **Market leader** in Europe within three years
- The system have to be **easy to use** and **easy and fast to install**

Example: Sport event: Opportunities

- In Norway and probably most other countries as well, there are a large number of sport clubs organizing competitions in different sports. The number of participants in an event ranges from a few tens to several thousands.
- The work involved in organizing such events might be considerably **simplified** with the help of computer based systems. This include **simplified** and **improved communication** between the stakeholders and **immediate availability** of results and other data.
- There are **few** such systems on the **market** today. There **exist some** systems supporting the big sport events, such as the Olympics and world championships. Those systems are really an overkill for supporting smaller sport events, and they are very **expensive**.

References

References

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  - http://sisas.modelbased.net/
- Business modelling scoping
  - http://epf.thingml.org/wikis/sisas/practice.business.business_modelling_scoping.base-sintef/guidances/practices/business_modelling_scoping_2894D8E2.html