



SEMAT – Definitions Track

March 17, 2010

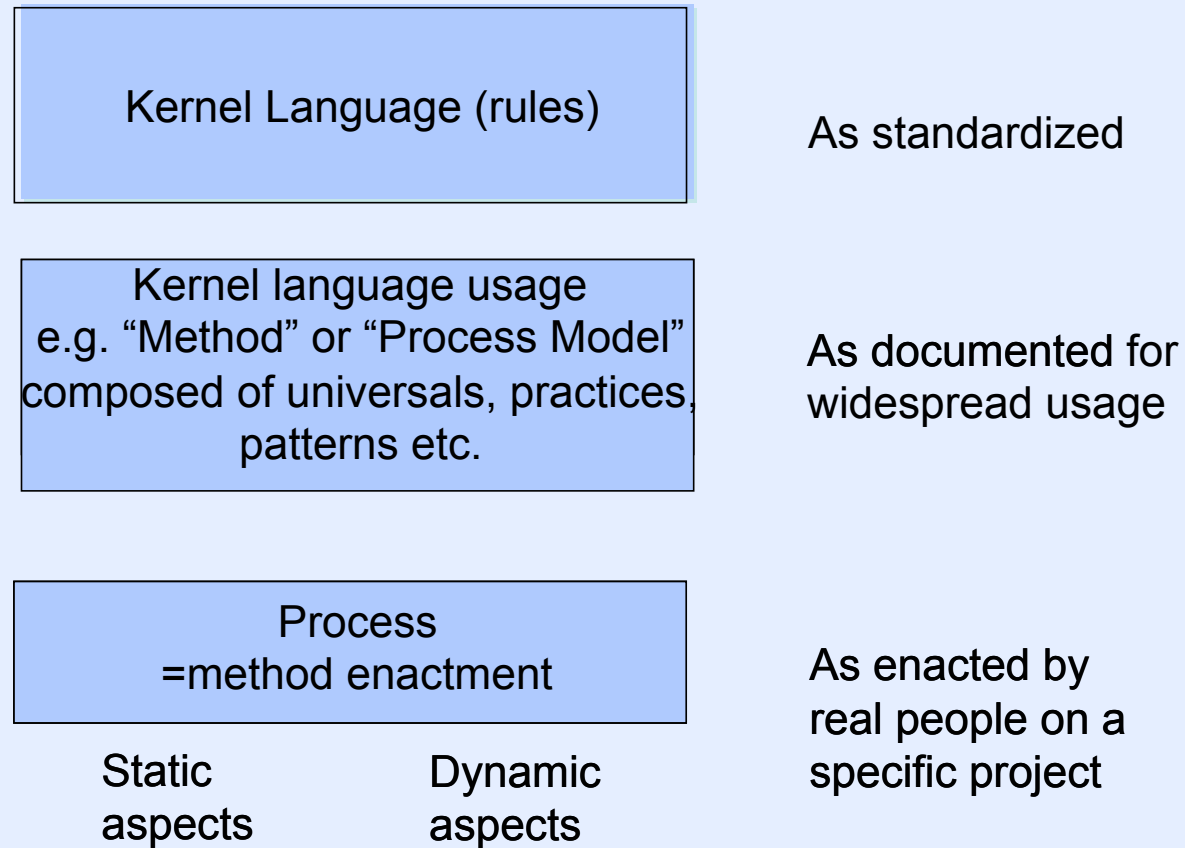
Chair: Brian Henderson-Sellers

Overview

1st The role of definitions in
SEMAT

2nd Contributions from SEMAT
participants' Position
Statements

SEMAT Vision revisited



Let us start with an example

Assume we have agreed upon this text as a definition:

- A team is a group of named people who interact with each other

Definition needed in two domains

What is a SEMAT definition?

Team both class & object

Class **Organizational Grouping** Its definition

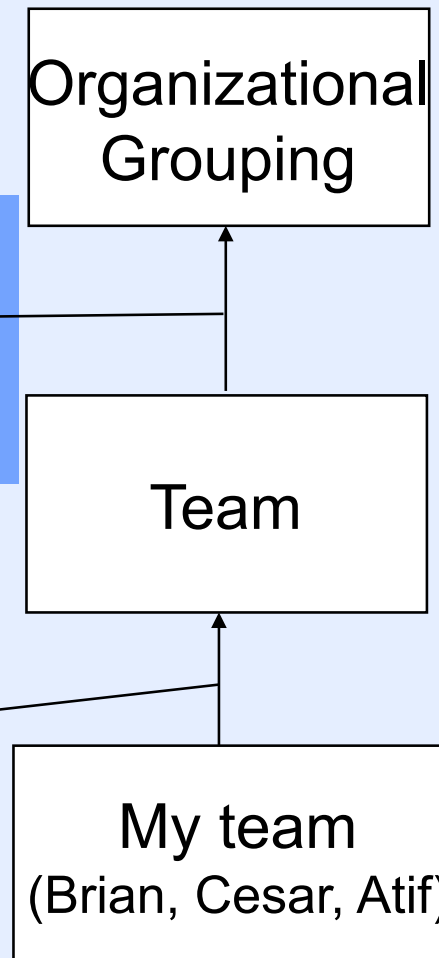
As a Venn diagram
Team Thing

Relationships are is-instance-of = set membership

Using OO modelling, can replace by

**Relationship is both
is-instance-of
and generalization**

**Relationship is
is-instance-of
= set membership**

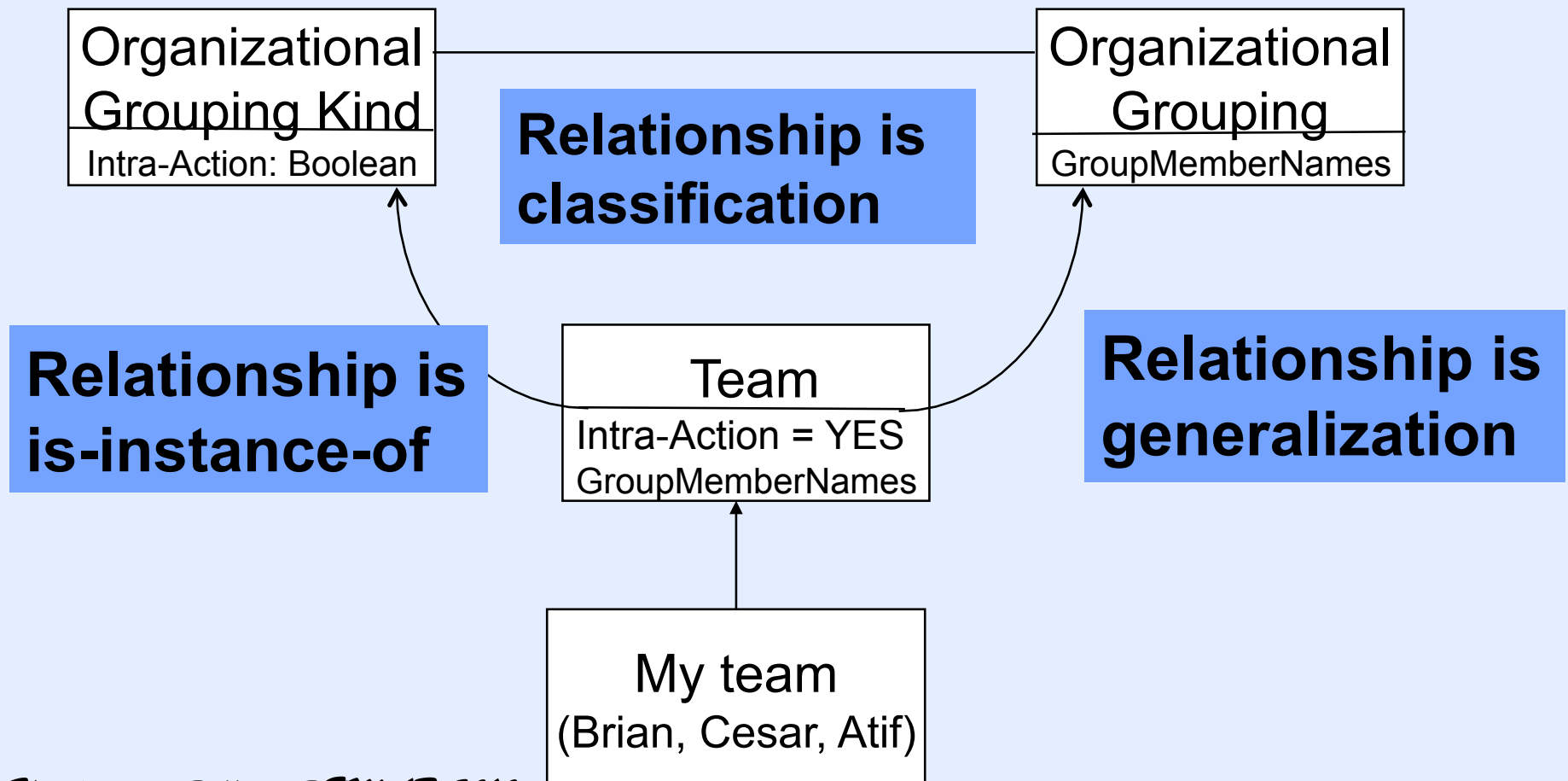


No longer a class
but a powertype pattern

Class + Object

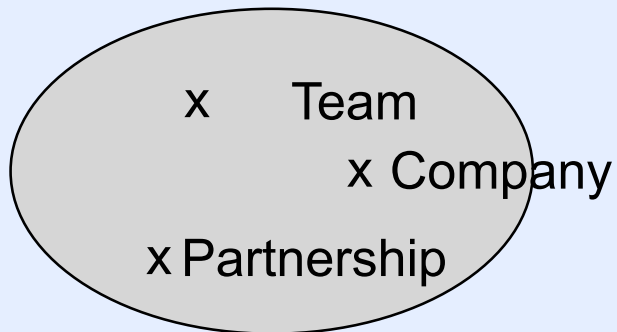
Object

Expanding



More mathematical representation

Organizational GroupingKind class

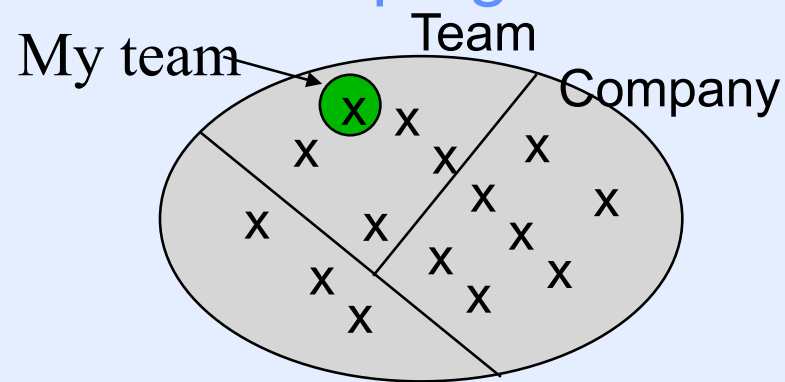


Organizational GroupingKind



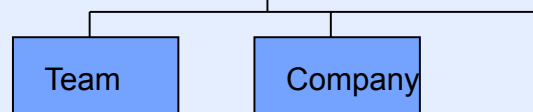
Team

Organizational Grouping class



Partnership

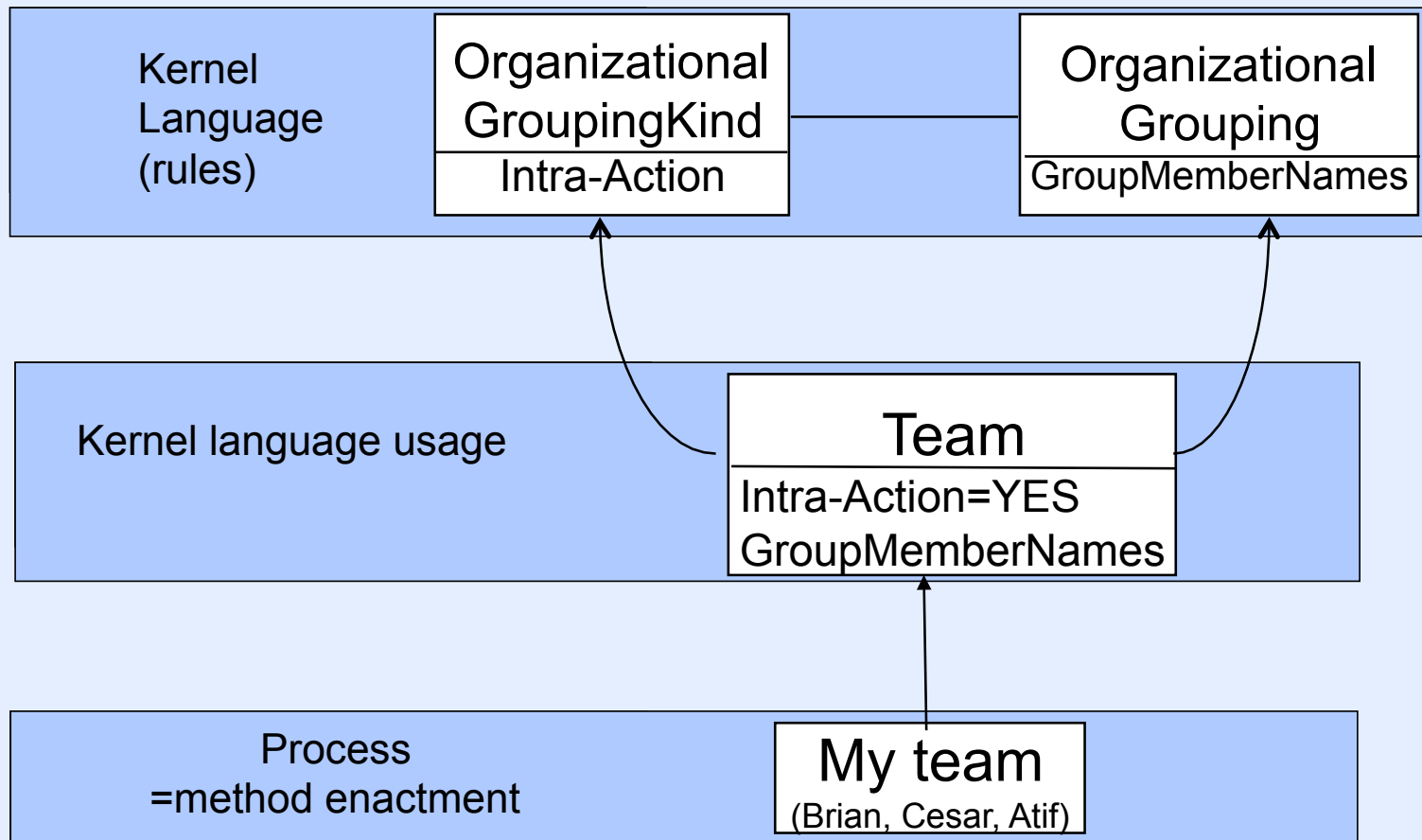
Organizational Grouping



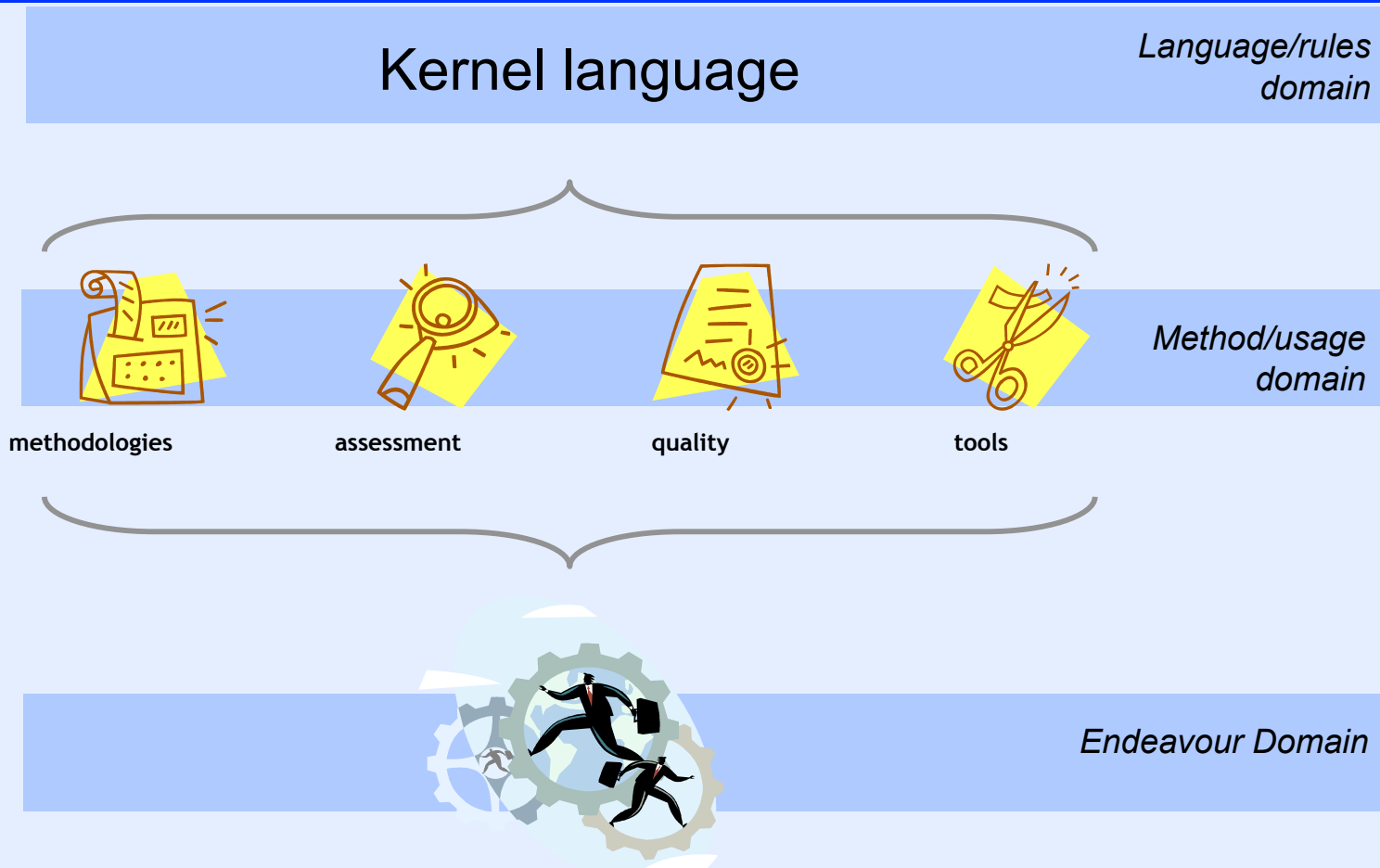
Strictly, in mathematics

- A power set $P(S)$ or 2^S is the set of *all* subsets of S
- What we call a powertype is only a subset of $P(S)$ and is called a *family of sets* over S

Superimposing SEMAT vision



This is similar to ISO architecture



Our original example text

OrganizationalGrouping

- A team is a group of named people who interact with each other

OrganizationalGroupingKind

Contributions from Position Statements

- Definition of “software engineering” problematical
Rough draft fast – refine iteratively over time
- Focus on Basics – avoid methodology wars –
several position statements expressed caution
- Several address teams, team structures and other
people issues
- Several talk of method “components” (or similar
name) and SME (e.g. Firesmith, Spence,
Humphrey, Fujitsu)

More contributions

- Several talk of how to measure success
- Is project management in scope? (Page-Jones argues against; others argue for)
- Inclusion of user interface (Constantine)
- Several mention taxonomy (Page-Jones), metamodels and ontologies (Firesmith, Bezivin, Henderson-Sellers)
- No agreed terminology (Spence notes widespread multiple meanings of “release” in industry)

How to proceed in the future?

- Identify what concepts require an SE definition (work with Universals Track)
- Agree on all these definitions in words including its name (seek overall consistent terminology but allow well-documented synonyms)
- Model them formally – link to kernel language possibilities include ontologies, metamodels, formal languages like VDM, category theory etc.
- Kernel language domain concepts can be partially validated w.r.t. method domain ones

Last look at original example text

OrganizationalGrouping

The challenge (at least to me) is to maintain focus on one specific domain and not accidentally merge two

OrganizationalGroupingKind

How to Proceed Today?

- Agree on an overall architecture esp. w.r.t. links to Kernel Language Track and Universals Track
- Ensure Track proposals are flexible enough to align with Theory Track deliberations
- How to support Assessment Track
- Discuss *sources* of definitions
- Identify high level groupings of definitions to allocate to Track subgroups
- Identify Definition Track members willing to research likely contentious definitions