Existing and Future Standards for Event-Driven Business Process Management

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Regensburg, 08.12.2009

Introduction

Agenda

- **Why are Standards Necessary or Useful?**
- NEXOF-RA with Event Processing Enhancements
- Domain Specific Reference Models for ED-BPM

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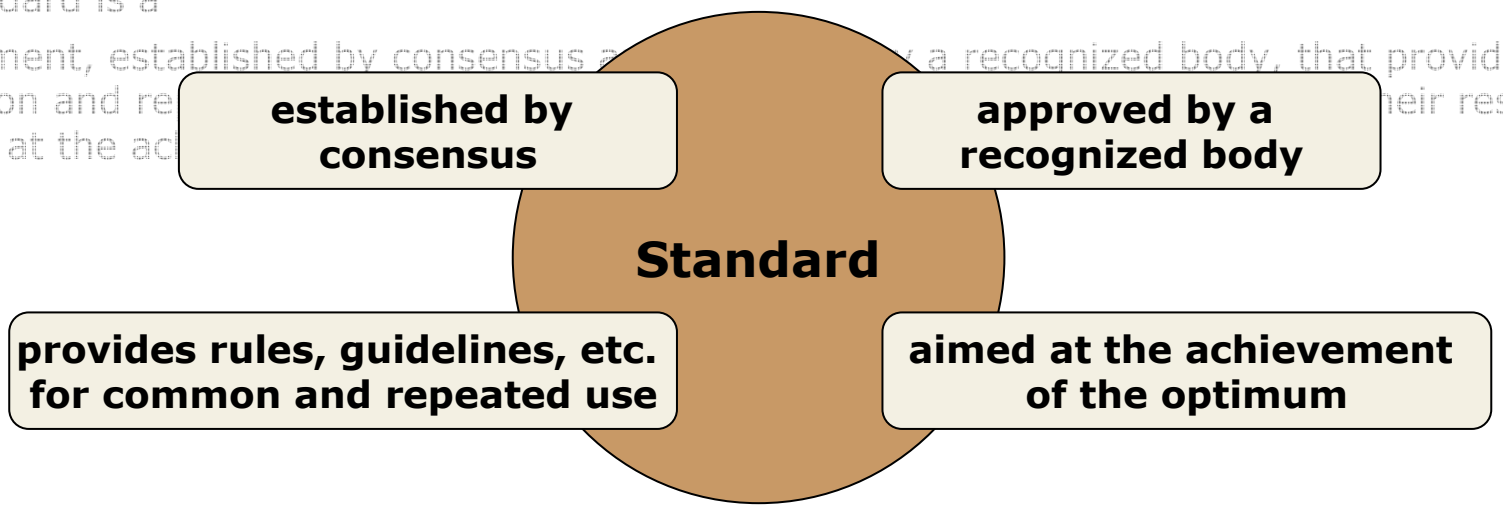
WHY ARE STANDARDS NECESSARY OR USEFUL?

Definition taken from ISO/IEC Guide 2:2004:

A standard is a

"document, established by consensus … a recognized body, that provides, for common and re… …eir results, aimed at the ac…



NOTE:
Standards should be based on the consolidated results of science, technology and experience, and aimed at the promotion of optimum community benefits.

Source: ISO/IEC INFORMATION CENTRE (http://www.standardsinfo.net)

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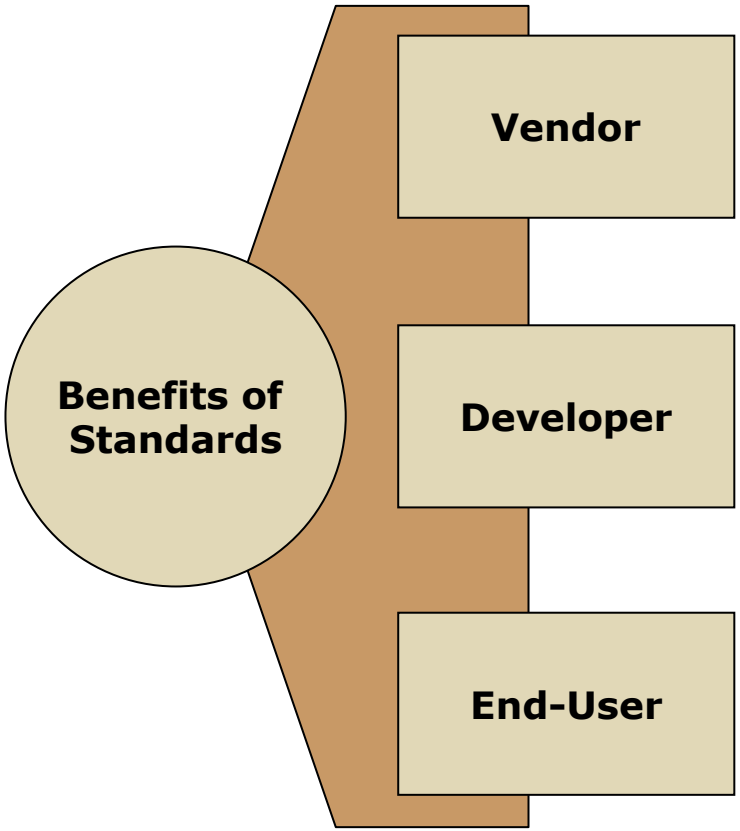
WHY ARE STANDARDS NECESSARY OR USEFUL?



Perspective

Benefits

- Possibility to meet customers demand for interoperability

- Leverages the know how of other participants using their frameworks
- Implementation speed increases by using frameworks or standard tools

- Reduced costs and risks while adopting a mature and tested technology
- Insight into the best practices of the industry

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WHY ARE STANDARDS NECESSARY OR USEFUL?

Development and operation of modern IT-infrastructure and systems requires generally accepted standards

Early Introduction

Advantage:
- Reduce risk of influencing
- Control innovation process

Disadvantage:
- Hinders the innovation process

?

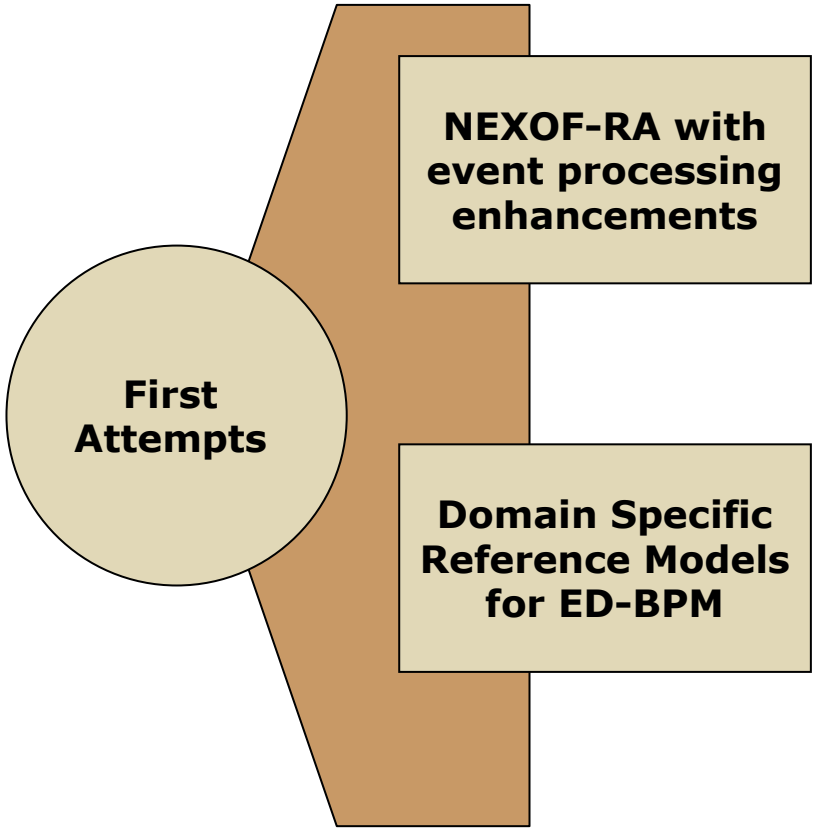
Late Introduction

Advantage:
- Growth of different technologies and approaches

Disadvantage:
- Hard controllable innovation process
- Big variety of proprietary vendor aligned solutions

WHY ARE STANDARDS NECESSARY OR USEFUL?

Main objective is not to establish new standards, but developing suggestions for a better adaption of ED-BPM

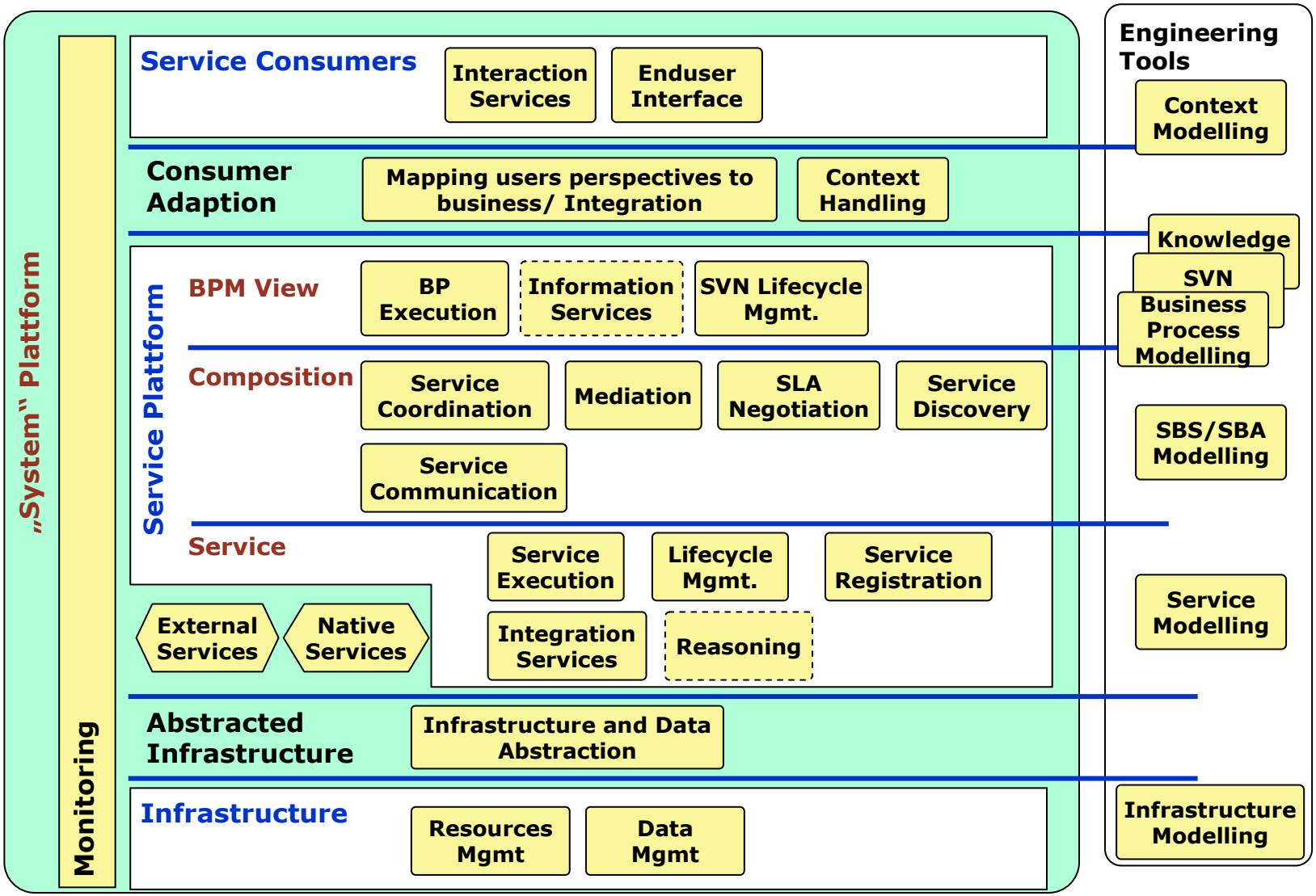


- Extension of Networked European Software & Service Initiative (NESSI) – Reference Architecture with Event Processing Capabilities
- Development of reference models (event models, best practices, etc.) for a subset of ED-BPM use cases in several domains

Agenda

- Why are Standards Necessary or Useful?
- **NEXOF-RA with Event Processing Enhancements**
- Domain Specific Reference Models for ED-BPM

NEXOF-RA WITH EVENT PROCESSING ENHANCEMENTS



Source: CITT

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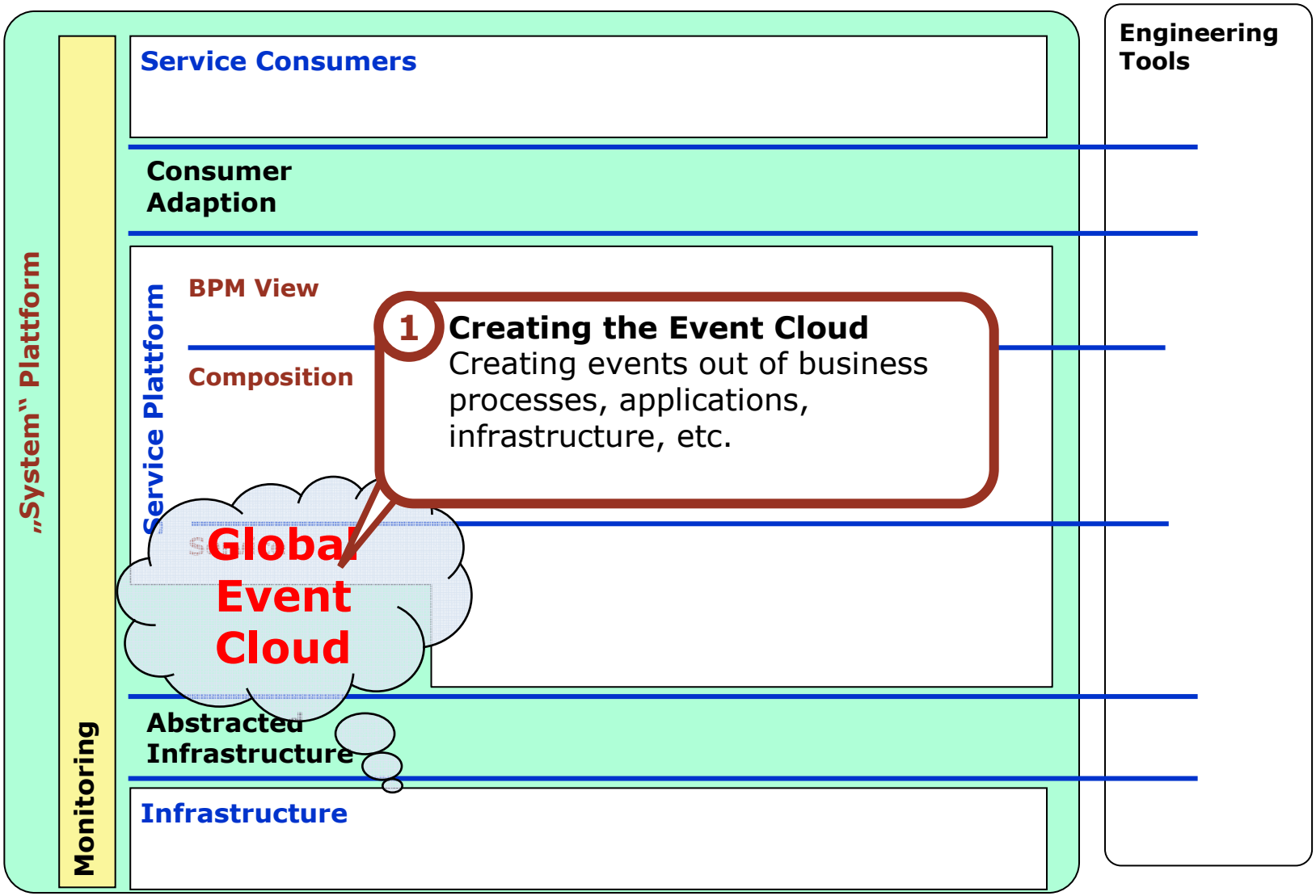

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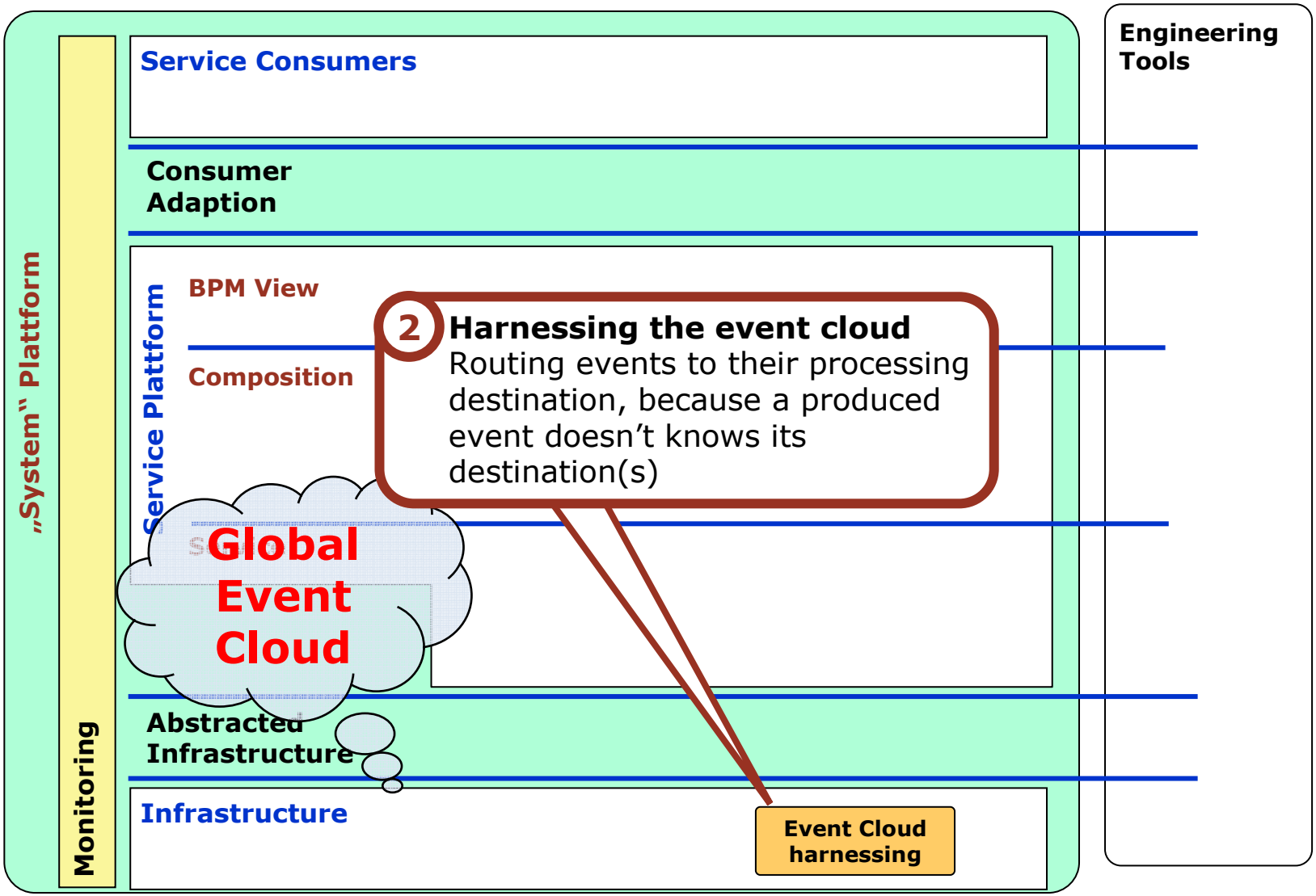

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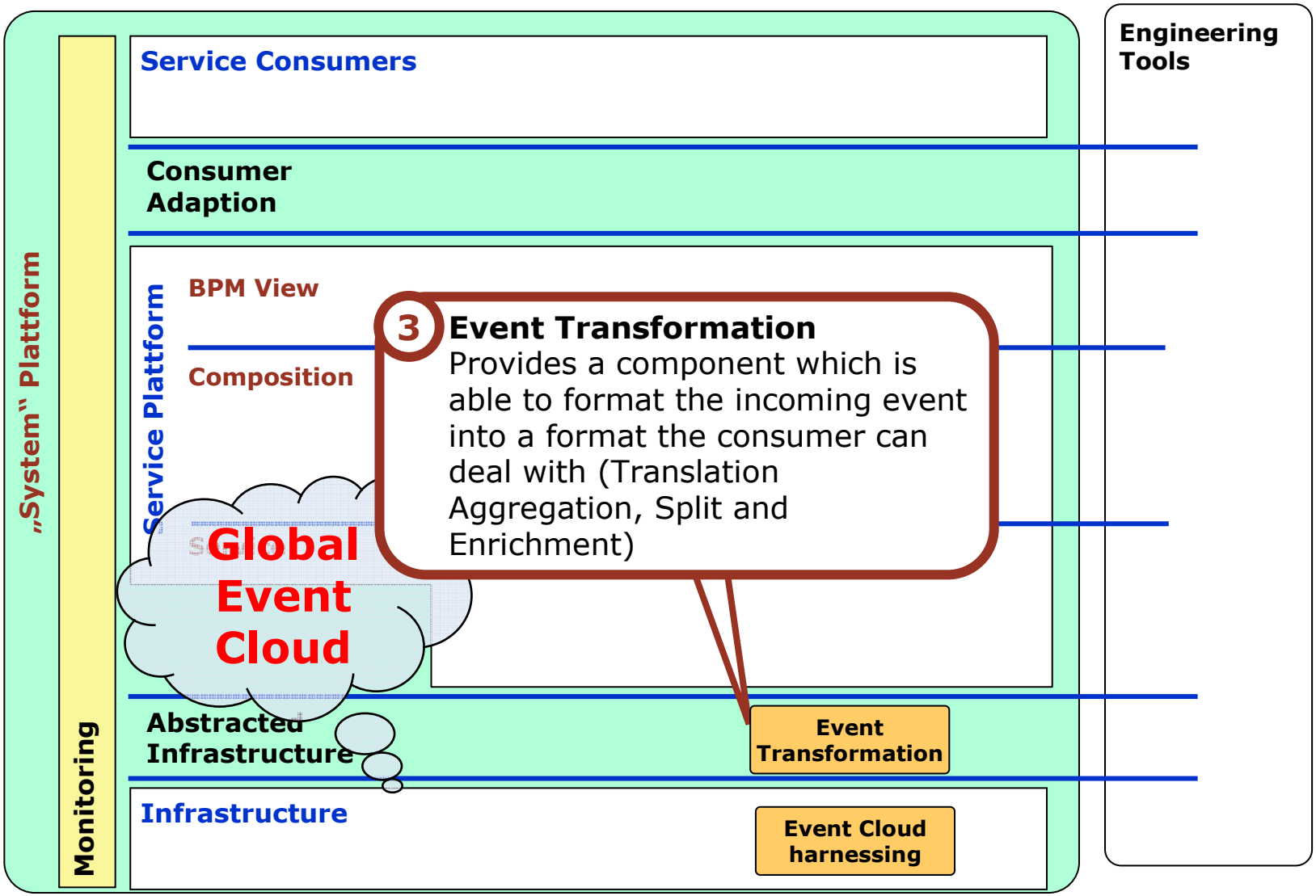

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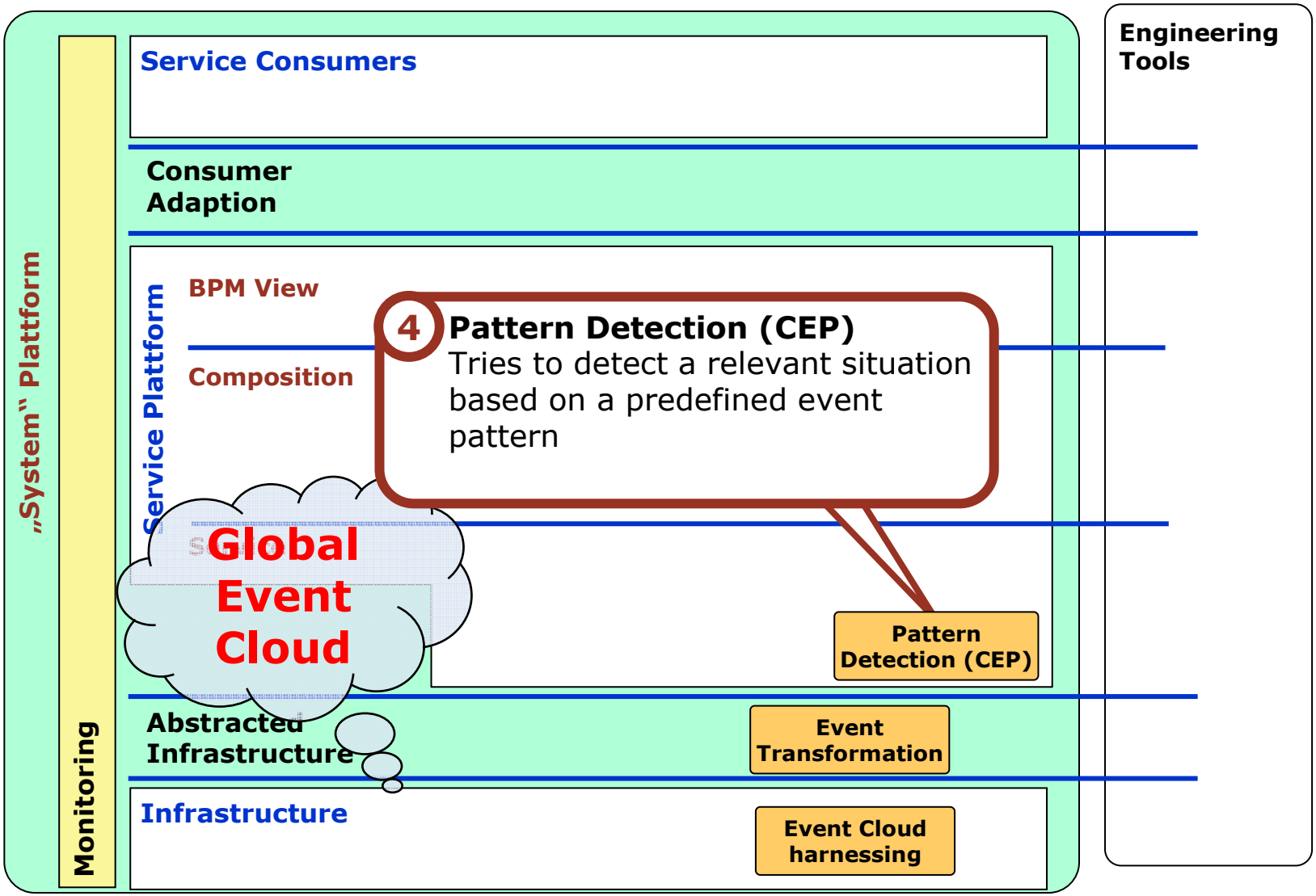

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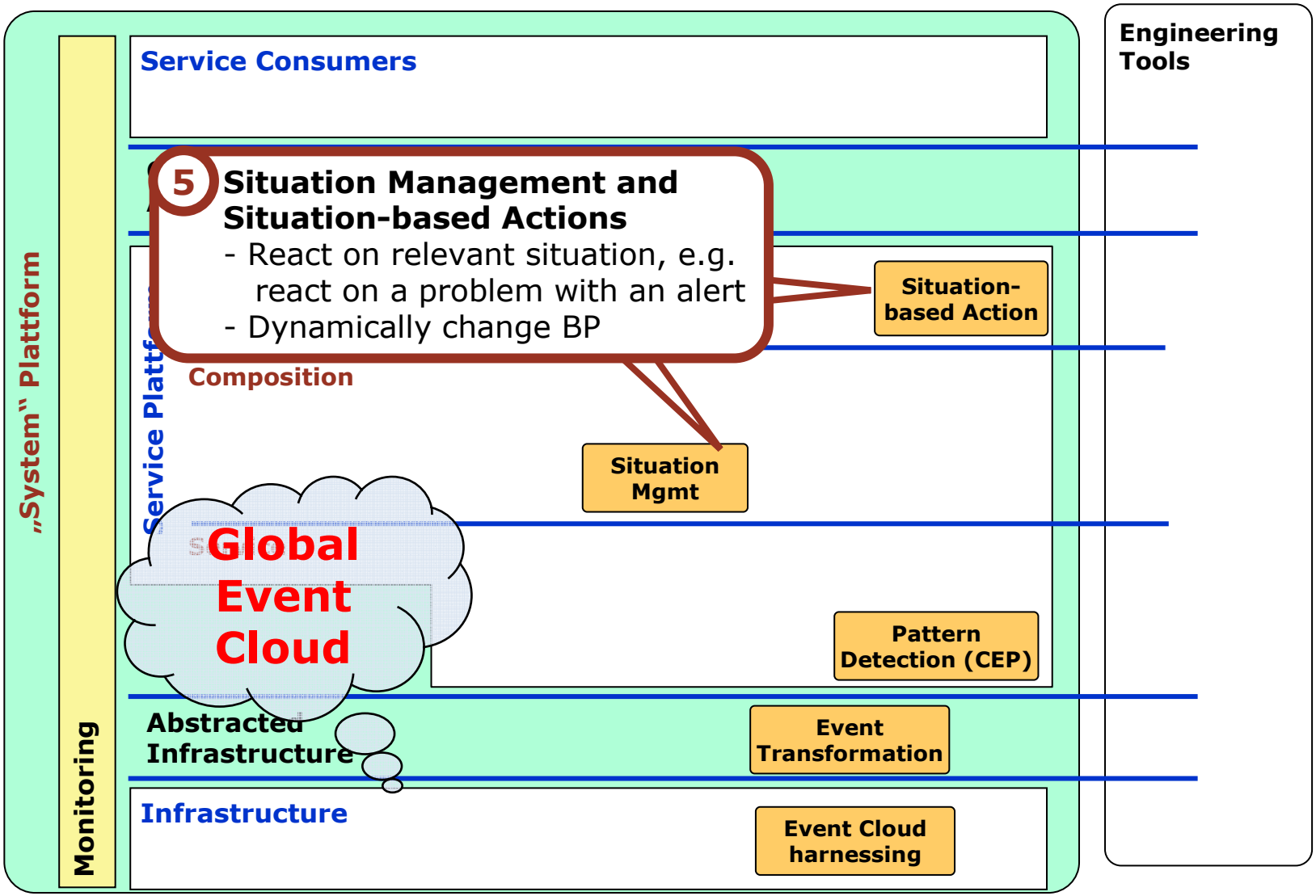

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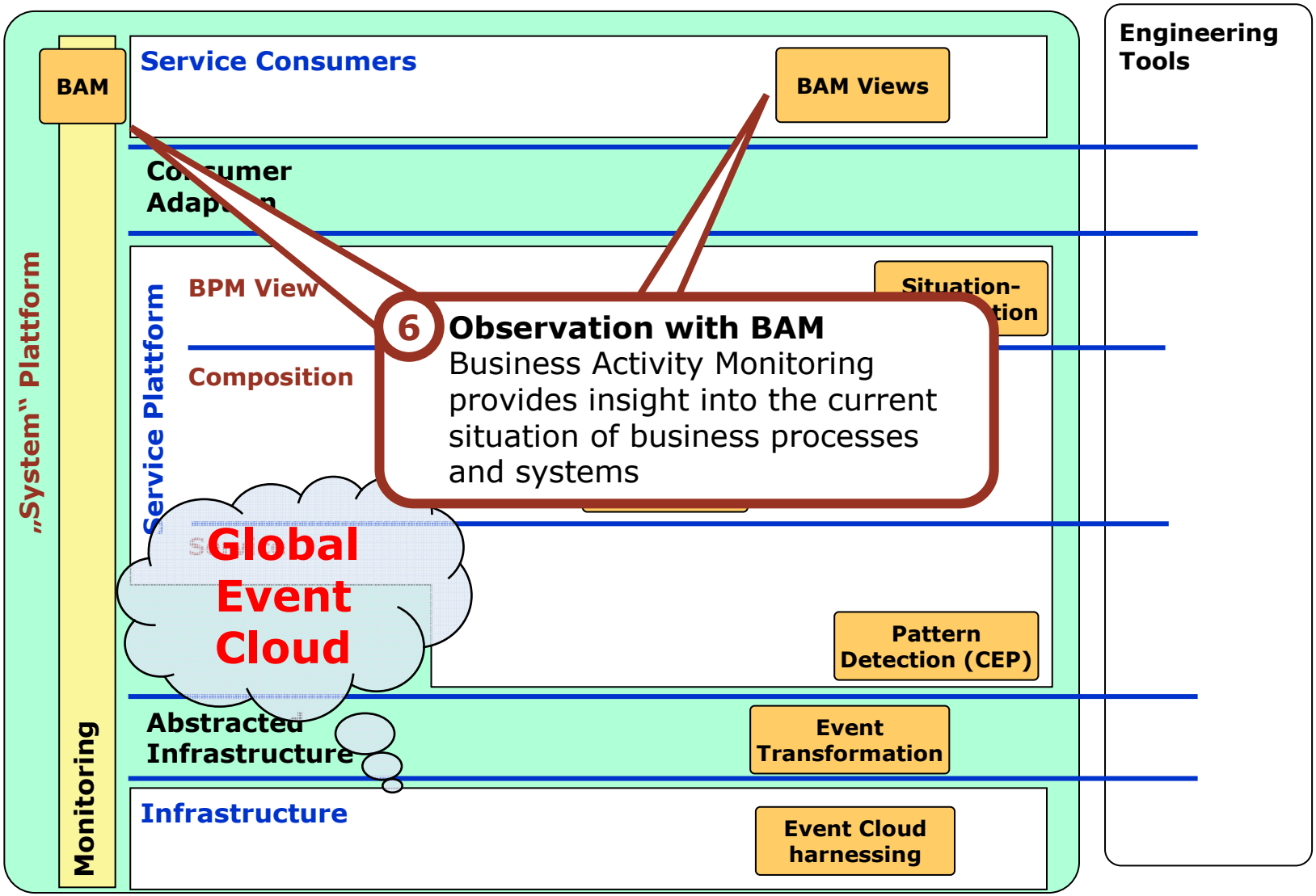

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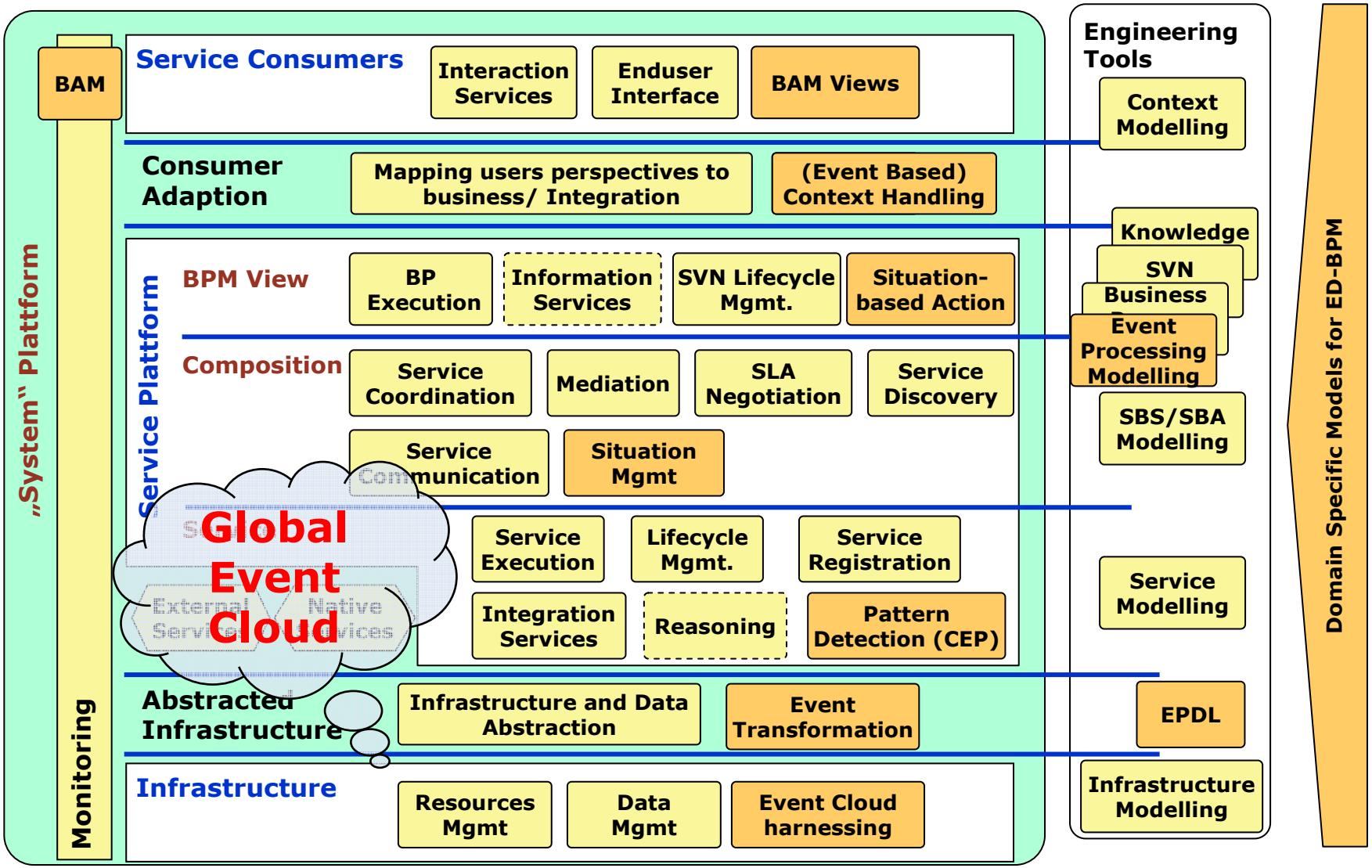

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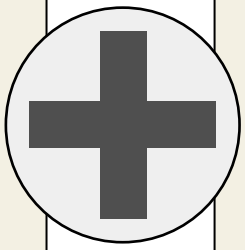
Agenda

- Why are Standards Necessary or Useful?
- NEXOF-RA with Event Processing Enhancements
- **Domain Specific Reference Models for ED-BPM**

DOMAIN SPECIFIC REFERENCE MODELS FOR ED-BPM

Business Process Management (BPM)

- Deals with the management of business processes
- Approach to increase the efficiency, flexibility and technology integration of the business
- Business processes describe the unique way of doing business
- They are seen as the most valuable asset of a corporation



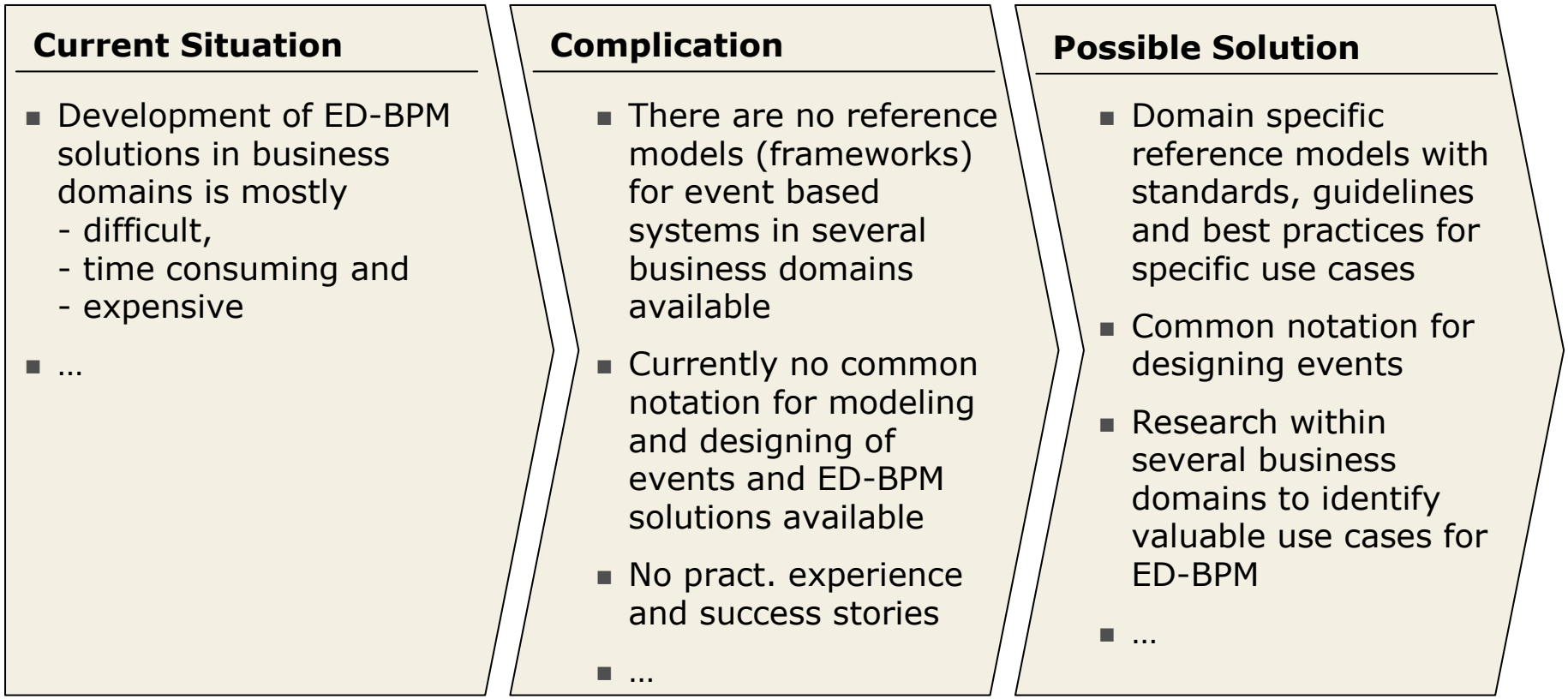
Complex Event Processing (CEP)

- Concept of dealing with detection, analysis, grouping and processing of events
- Technology for obtaining relevant situational knowledge from distributed systems in real time
- Aim is to identify meaningful events, e.g. errors, problems, frauds (as and before they occur)

Event-Driven Business Process Management (ED-BPM)

DOMAIN SPECIFIC REFERENCE MODELS FOR ED-BPM

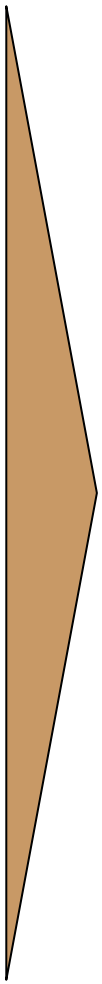
What is the reason for the rarely use of ED-BPM solutions in companies? How could that problem be solved?



DOMAIN SPECIFIC REFERENCE MODELS FOR ED-BPM

Notification Event Architecture for Retail (NEAR)

- **Released:** 2005
- **Interest Group:** ARTS *
- **Aim of NEAR:**
  simplify real time integration of loosely coupled applications, reduction of time and costs for integration, etc.
- **NEAR provides:**
  - Reference architecture
  - Guidelines and best practices
  - Modeling notation for events based on UML
  - etc.



Domain Specific Reference Models (NEAE, NEAF, NEAL)

- Development of reference models for a subset of use cases in several domains
- **Enhancement** with specific parts for ED-BPM has to be done (e.g. event correlation, BAM Views, etc.)

NEAE for ED-BPM
Notification Event Architecture for Entertainment

NEAF for ED-BPM
Notification Event Architecture for Finance

NEAL for ED-BPM
Notification Event Architecture for Logistics

...

* Association for Retail Technology Standards of the National Retail Federation http://www.nrf.com

DOMAIN SPECIFIC REFERENCE MODELS FOR ED-BPM

NEAR for ED-BPM

NEAE for ED-BPM

NEAF for ED-BPM

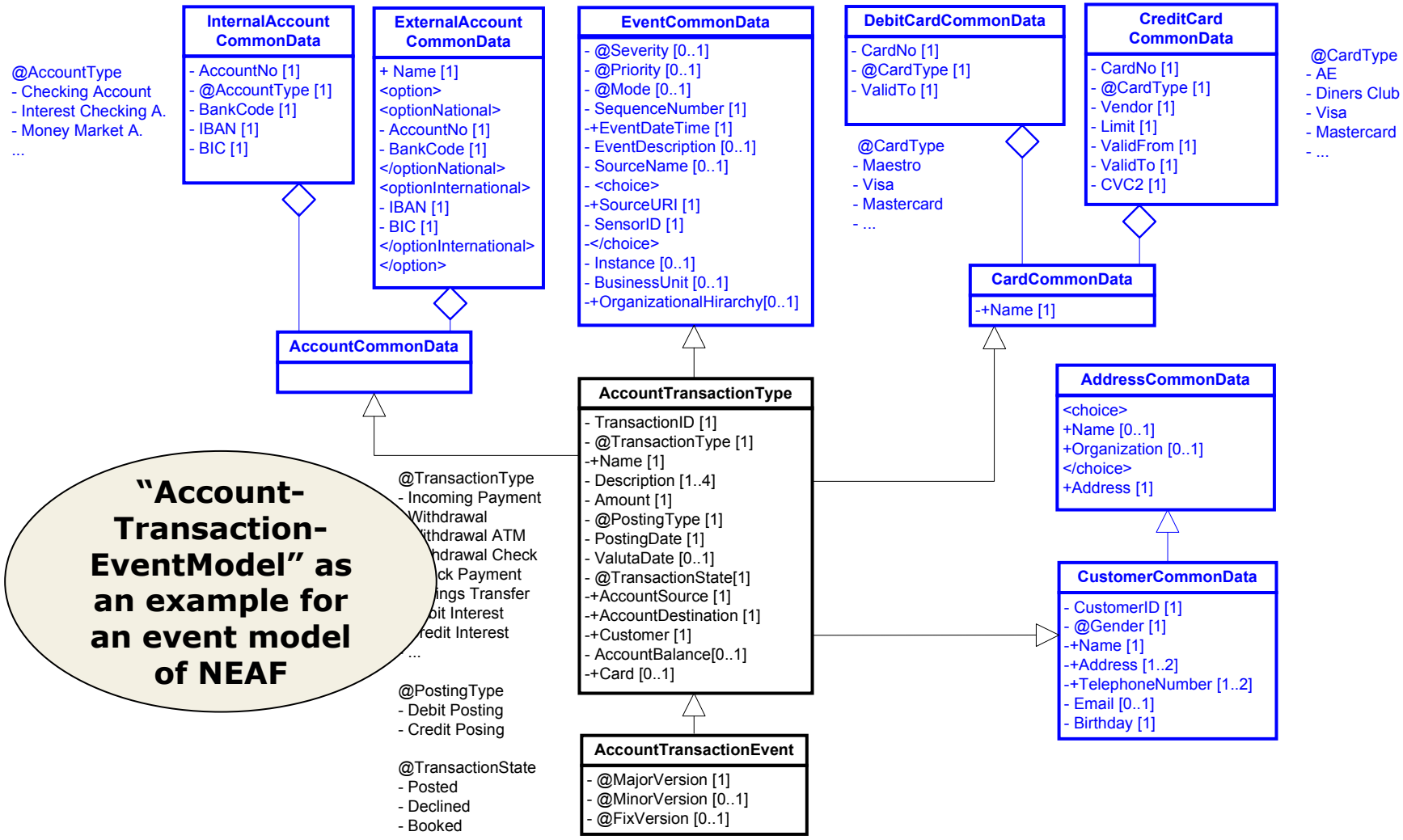
NEAL for ED-BPM

Domain Specific Reference Models for Specific Domains
(**R**etail, **E**ntertainment, **F**inance, **L**ogistics)

- **Aim:** simplify the integration of ED-BPM for a subset of use cases in several domains
- **Properties:**
  - **Standard notation** for modeling basic events
  - **Event models** for specific use cases of valuable business processes (low level events, e.g. "OrderEventModel", "AccountTransactionEventModel", "CustomerEventModel", "TrackingEventModel")
  - **Event Patterns** for detection of relevant situations within the business processes (detection of complex events)
  - Possible **actions to react** on relevant situations
  - Possible **BAM views** for observation
  - Etc.

Progress: 0% 100%

DOMAIN SPECIFIC REFERENCE MODELS FOR ED-BPM



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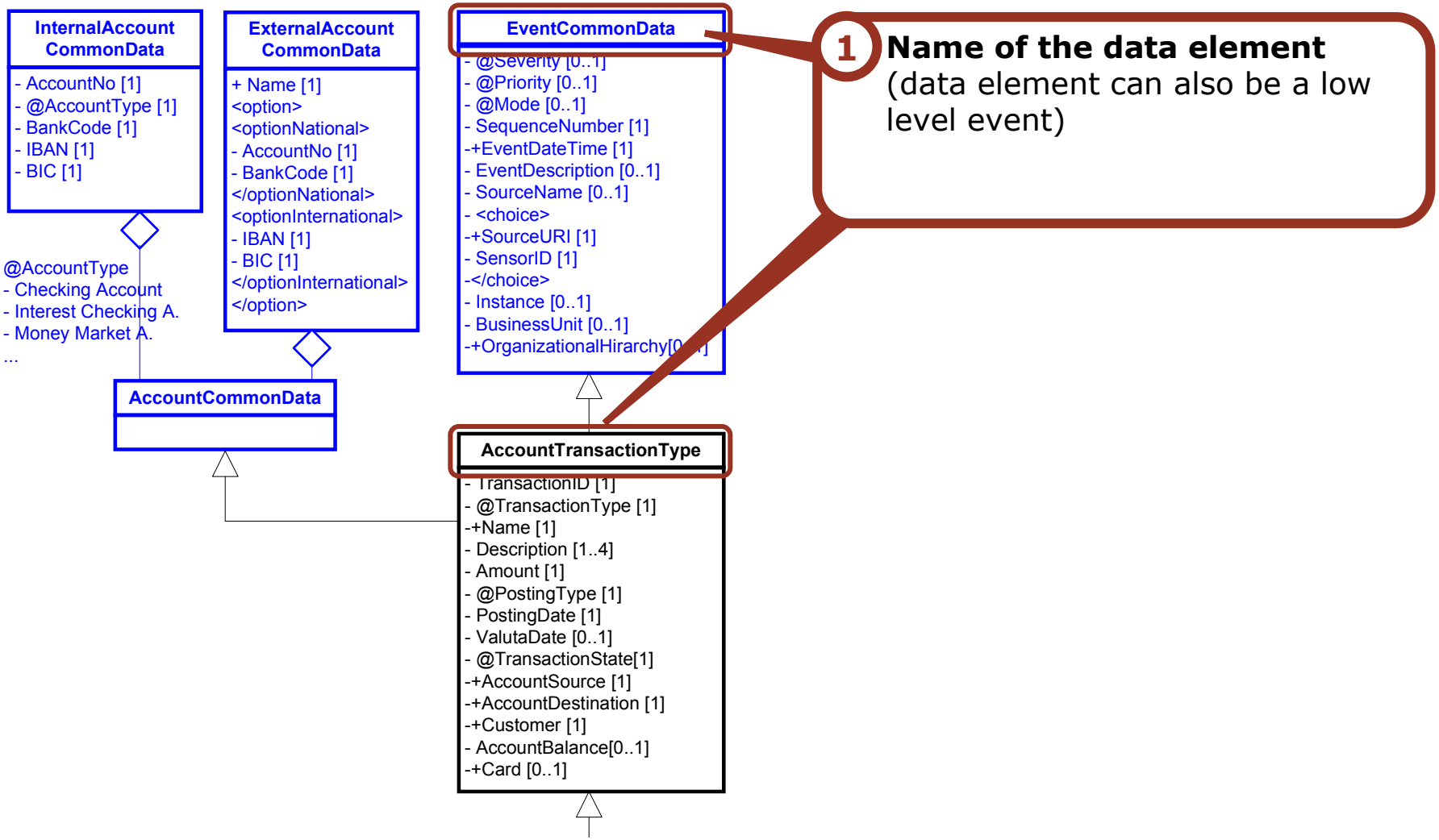
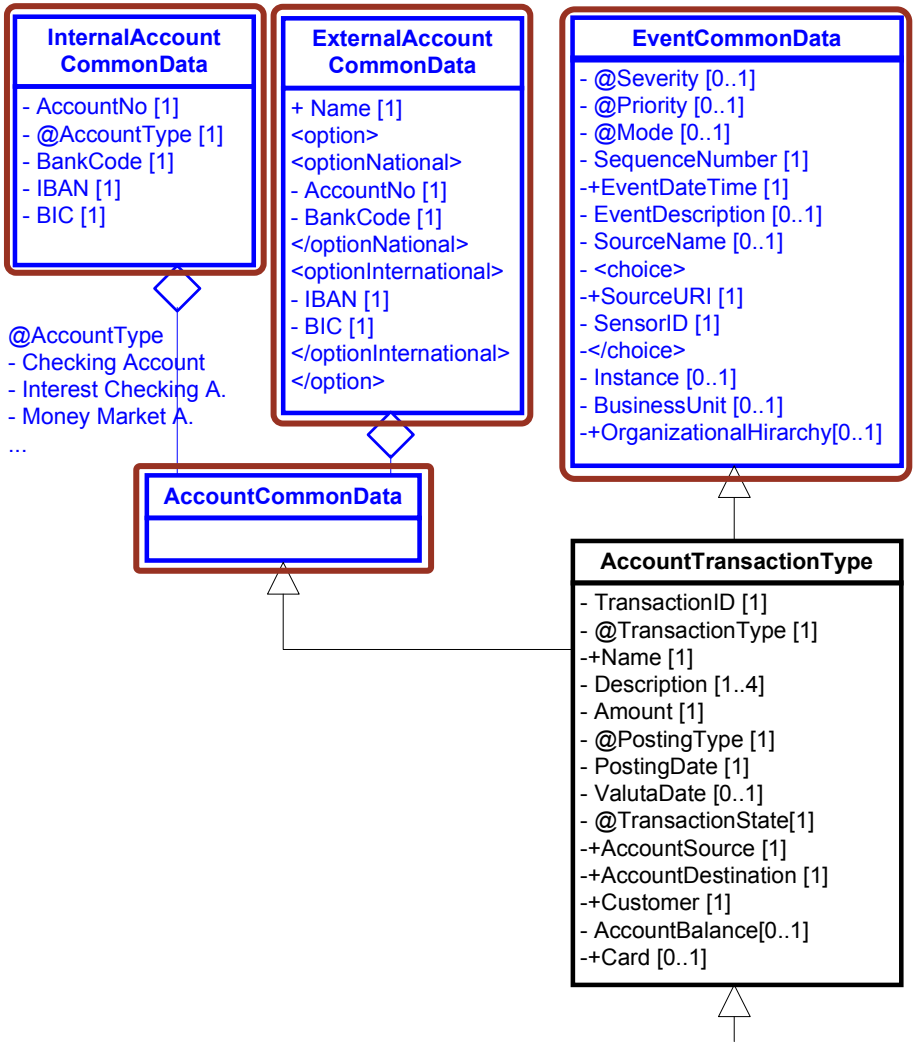


Source: Excerpt of „AccountTransactionEvent" of NEAF

DOMAIN SPECIFIC REFERENCE MODELS FOR ED-BPM

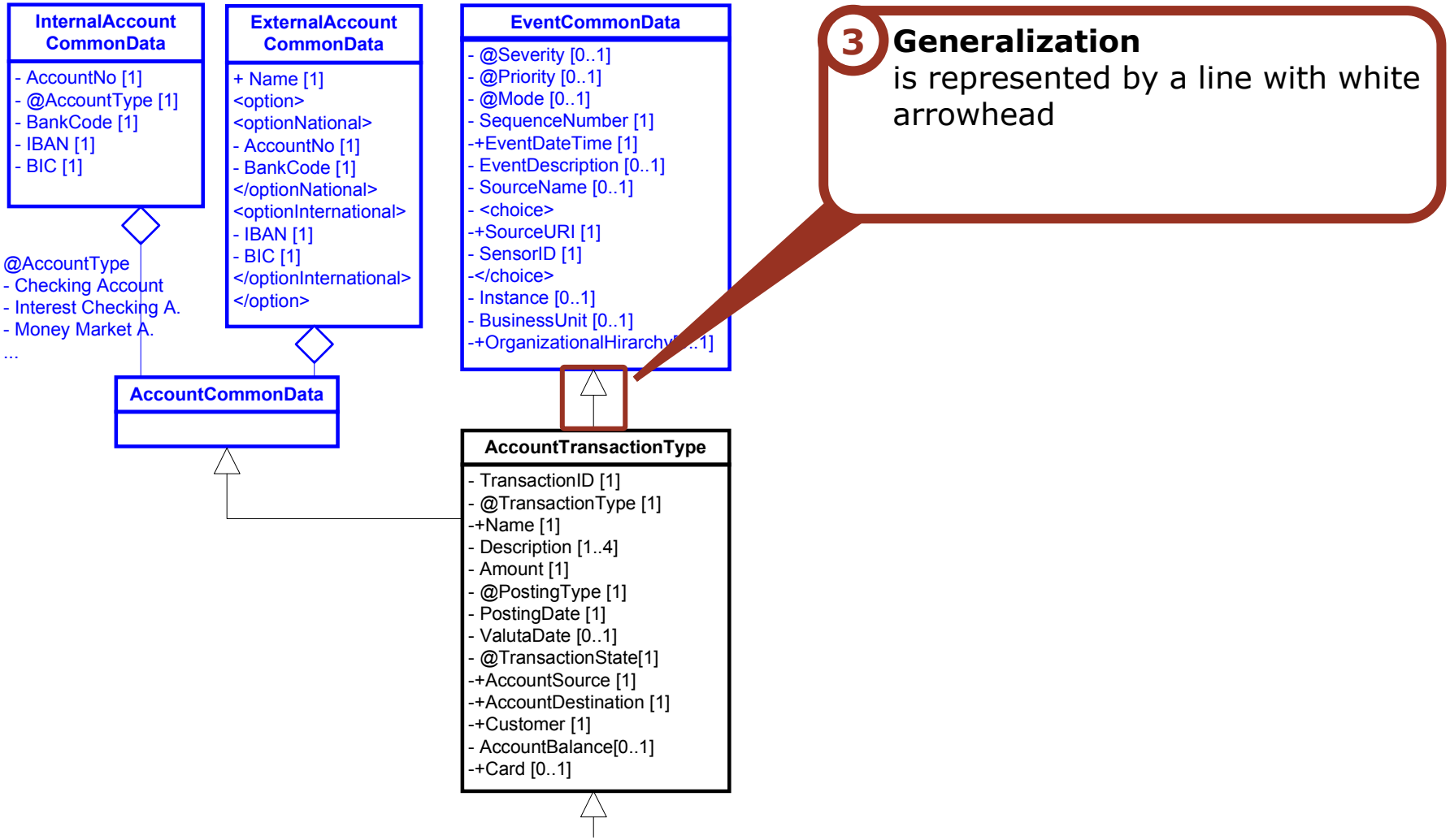


2 Common data elements

Common data elements which can be used multiple times within the domain model are colored blue

Source: Excerpt of „AccountTransactionEvent" of NEAF

DOMAIN SPECIFIC REFERENCE MODELS FOR ED-BPM



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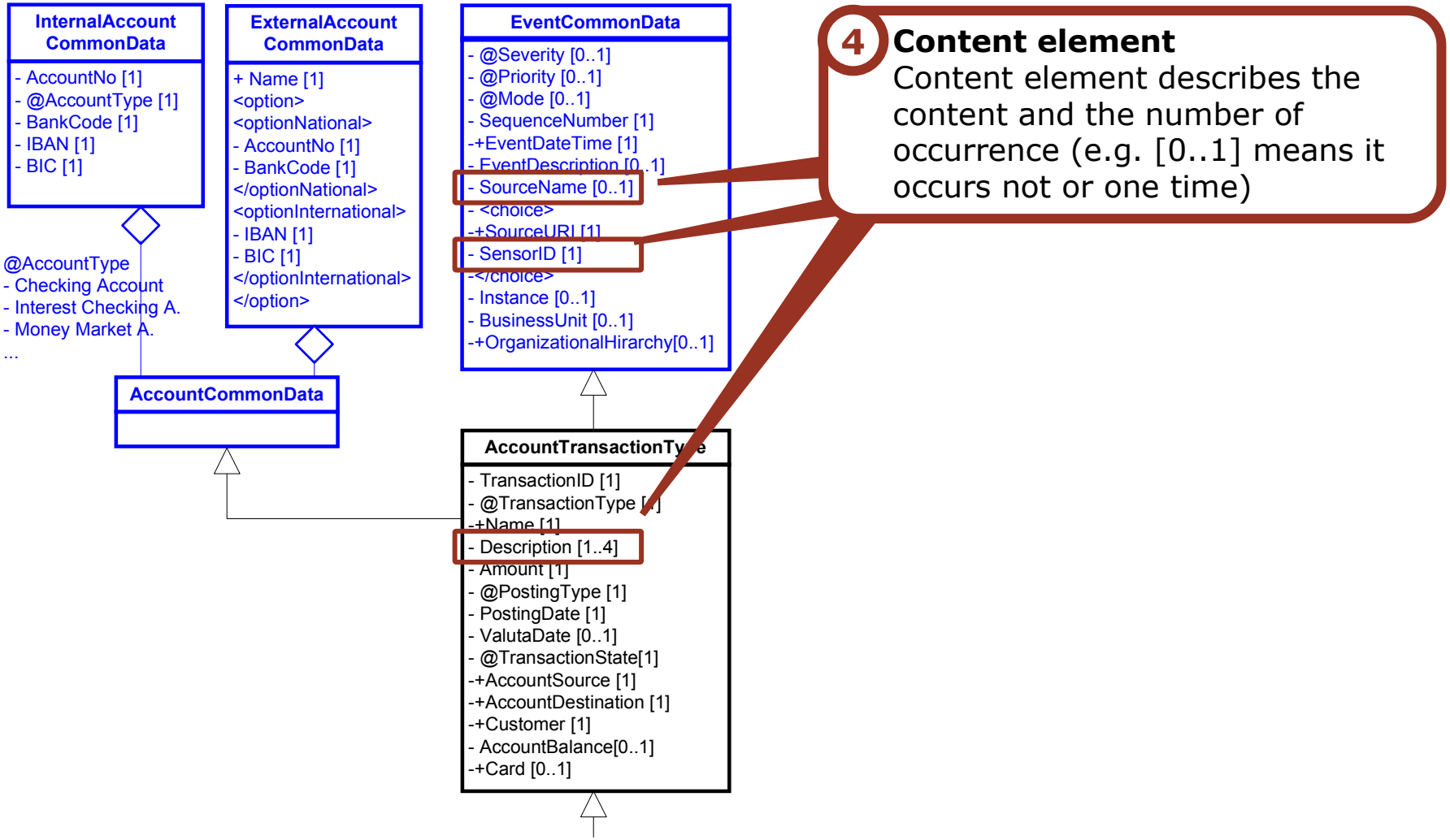

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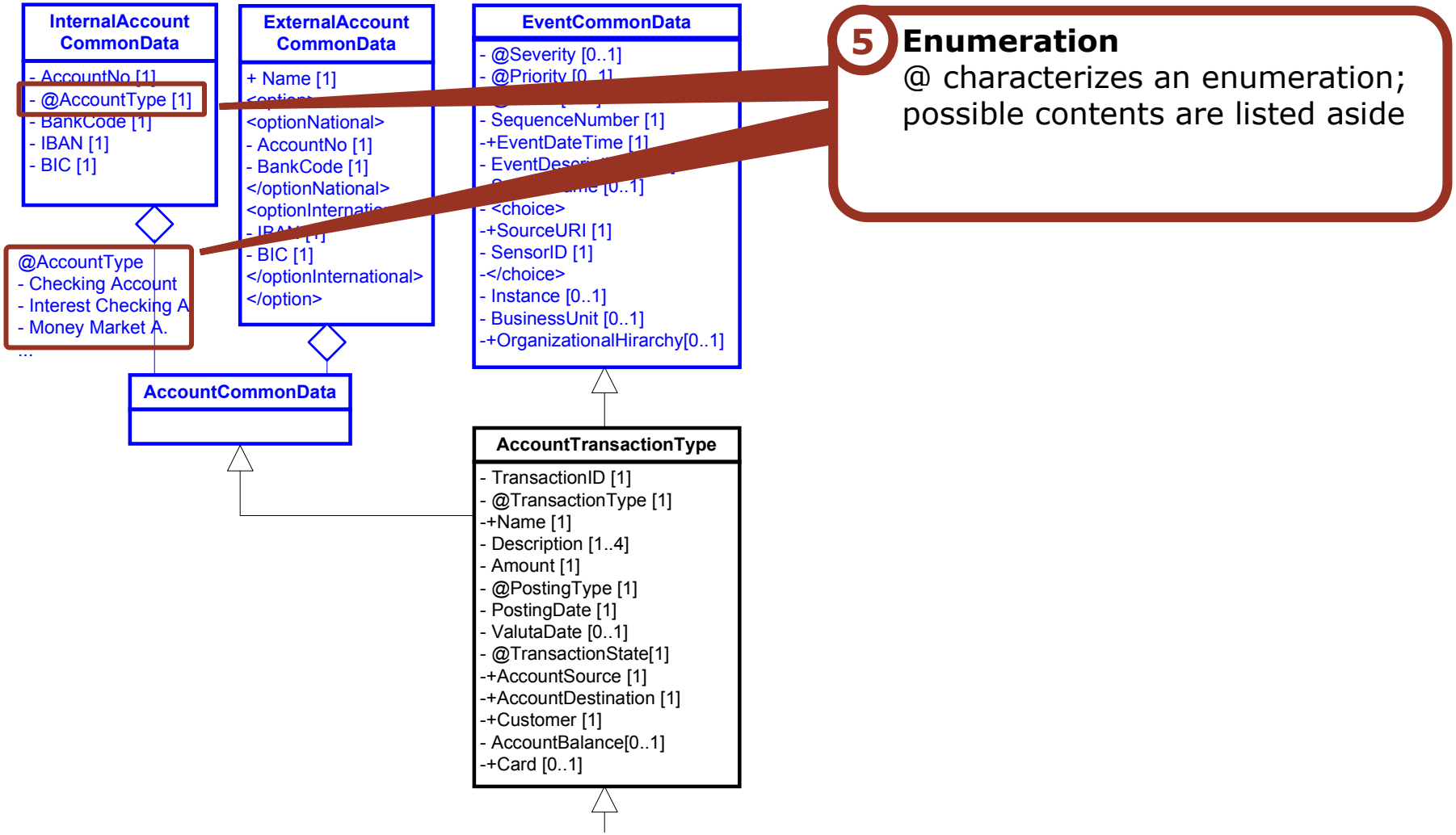

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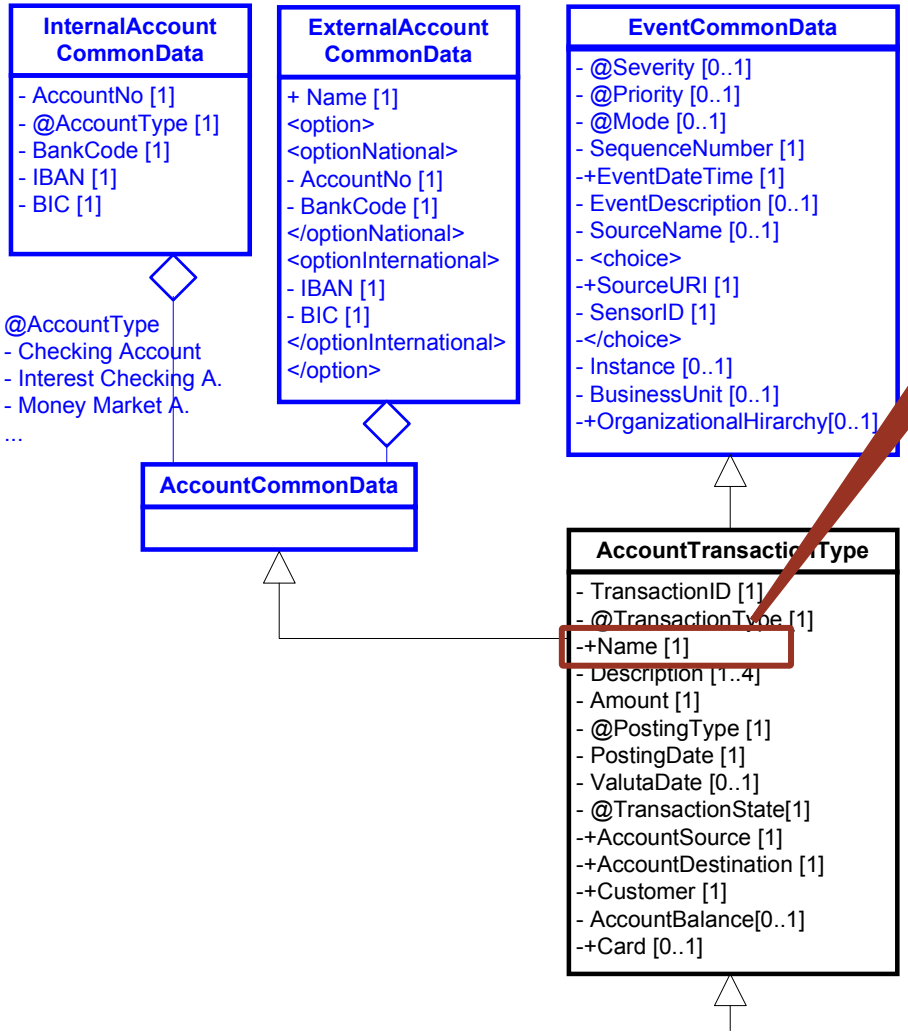
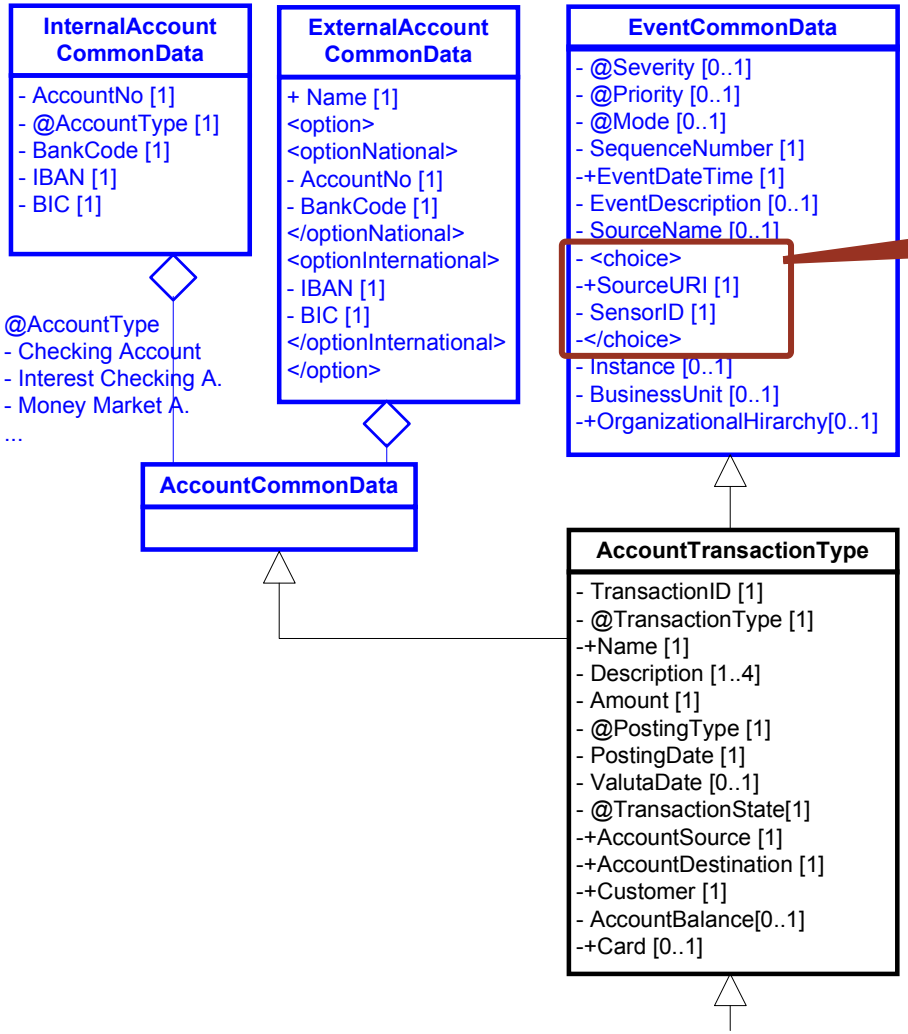


6 Composite element

\+ indicates a composite element within a data element (e.g. *Name* consists of *title, name* and *first name*

Source: Excerpt of „AccountTransactionEvent" of NEAF

DOMAIN SPECIFIC REFERENCE MODELS FOR ED-BPM

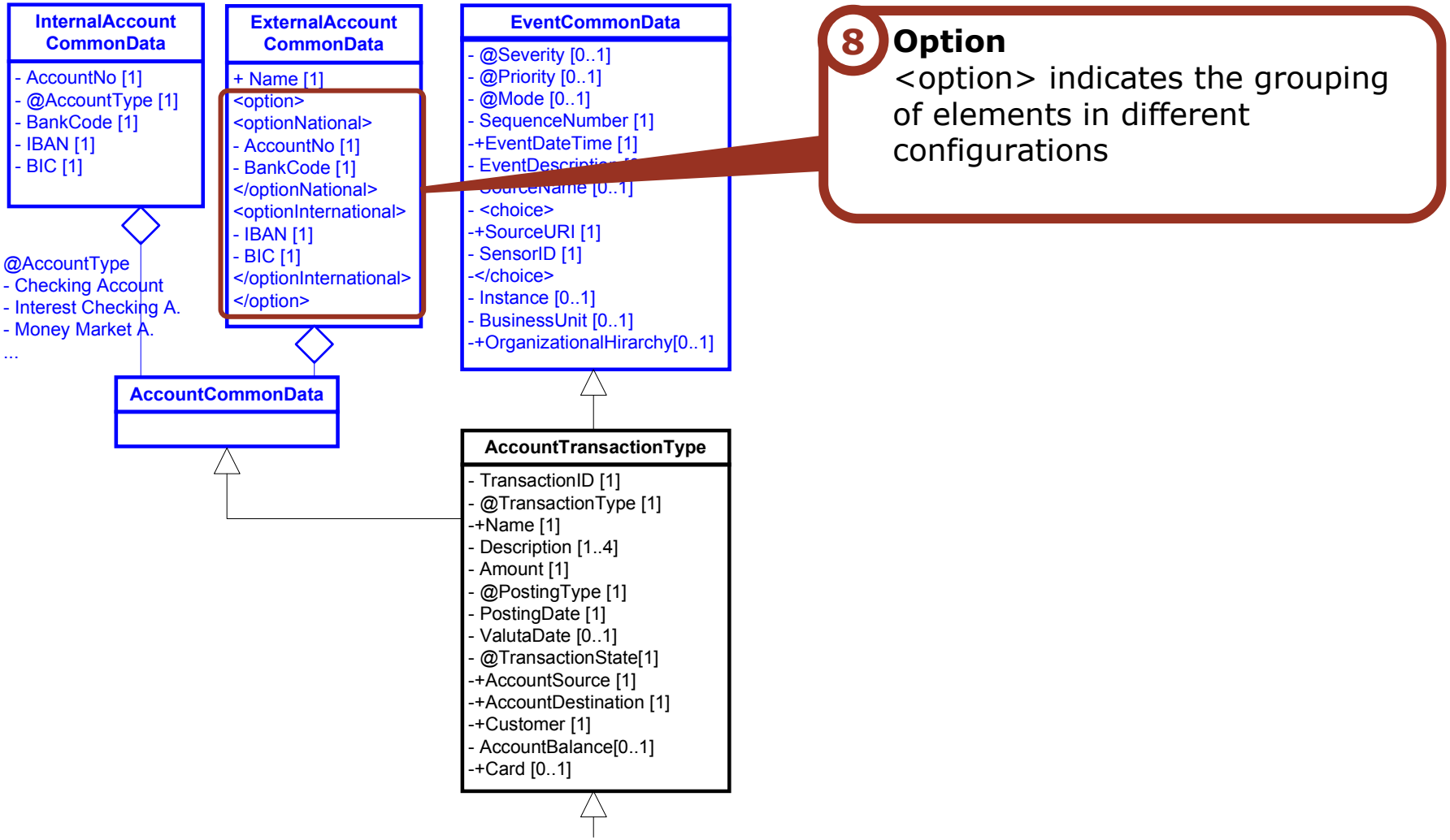


7 Choice

<choice> describes the possible selection of exactly one element. The element can vary from instance to instance

Source: Excerpt of „AccountTransactionEvent" of NEAF

DOMAIN SPECIFIC REFERENCE MODELS FOR ED-BPM



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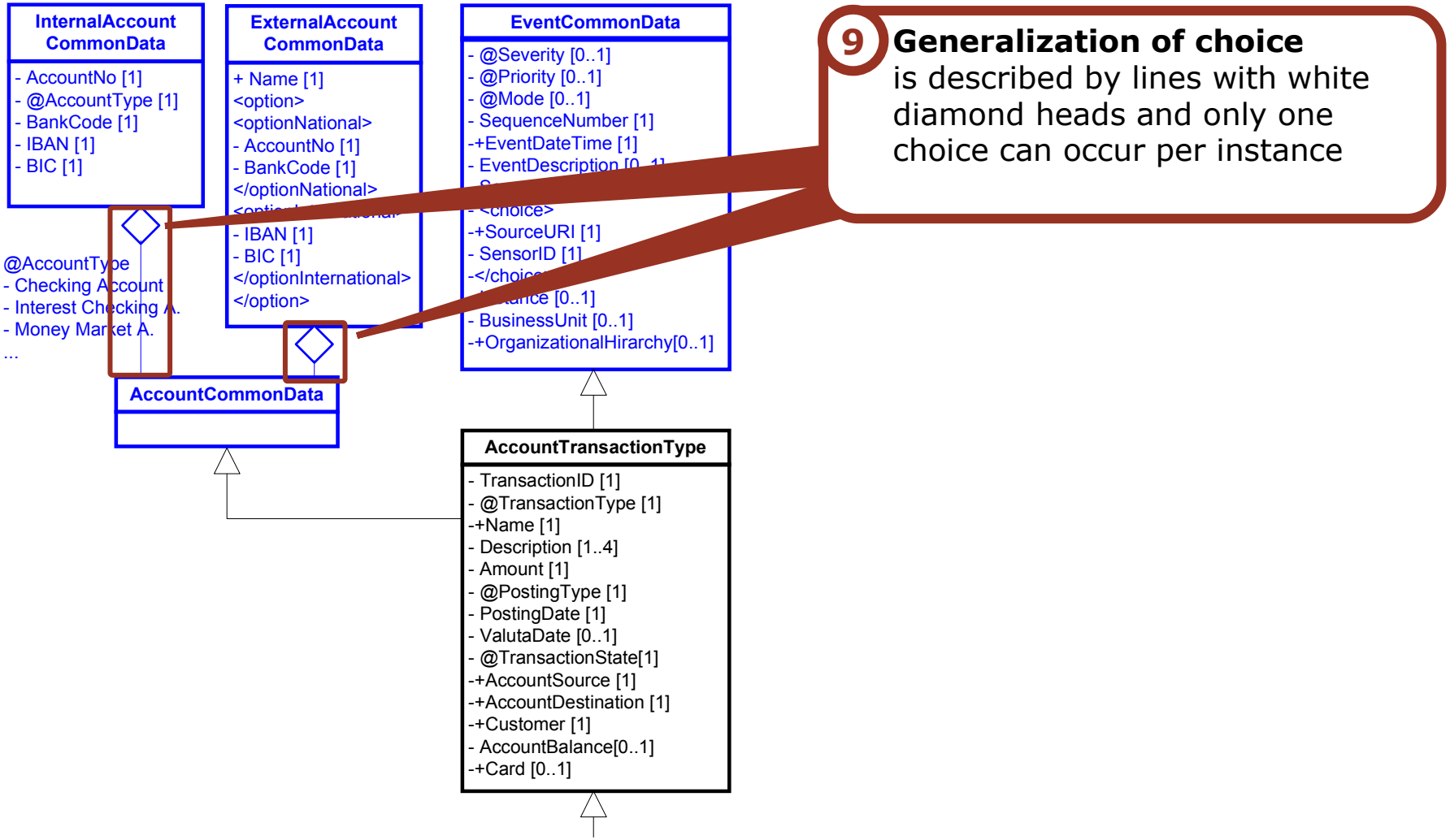
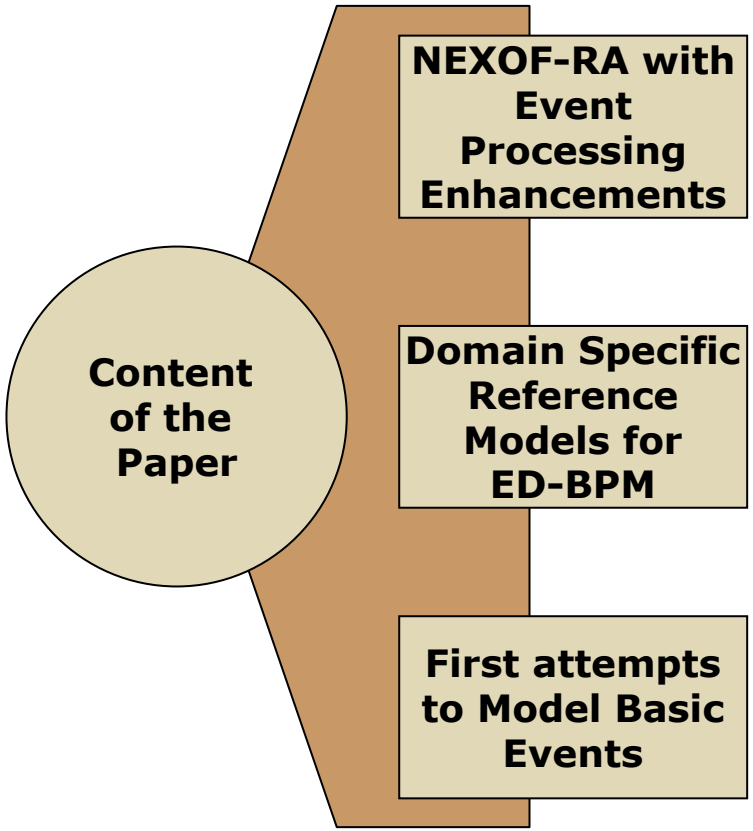


Source: Excerpt of „AccountTransactionEvent" of NEAF

CONCLUSION



- Extension of Networked European Software & Service Initiative (NESSI) – Reference Architecture with Event Processing Capabilities
- First attempt for reference models for a subset of use cases in several domains (Entertainment, Finance, Logistics, Retail)
- A approach to describe and model low level events

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Thanks for your attention.

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