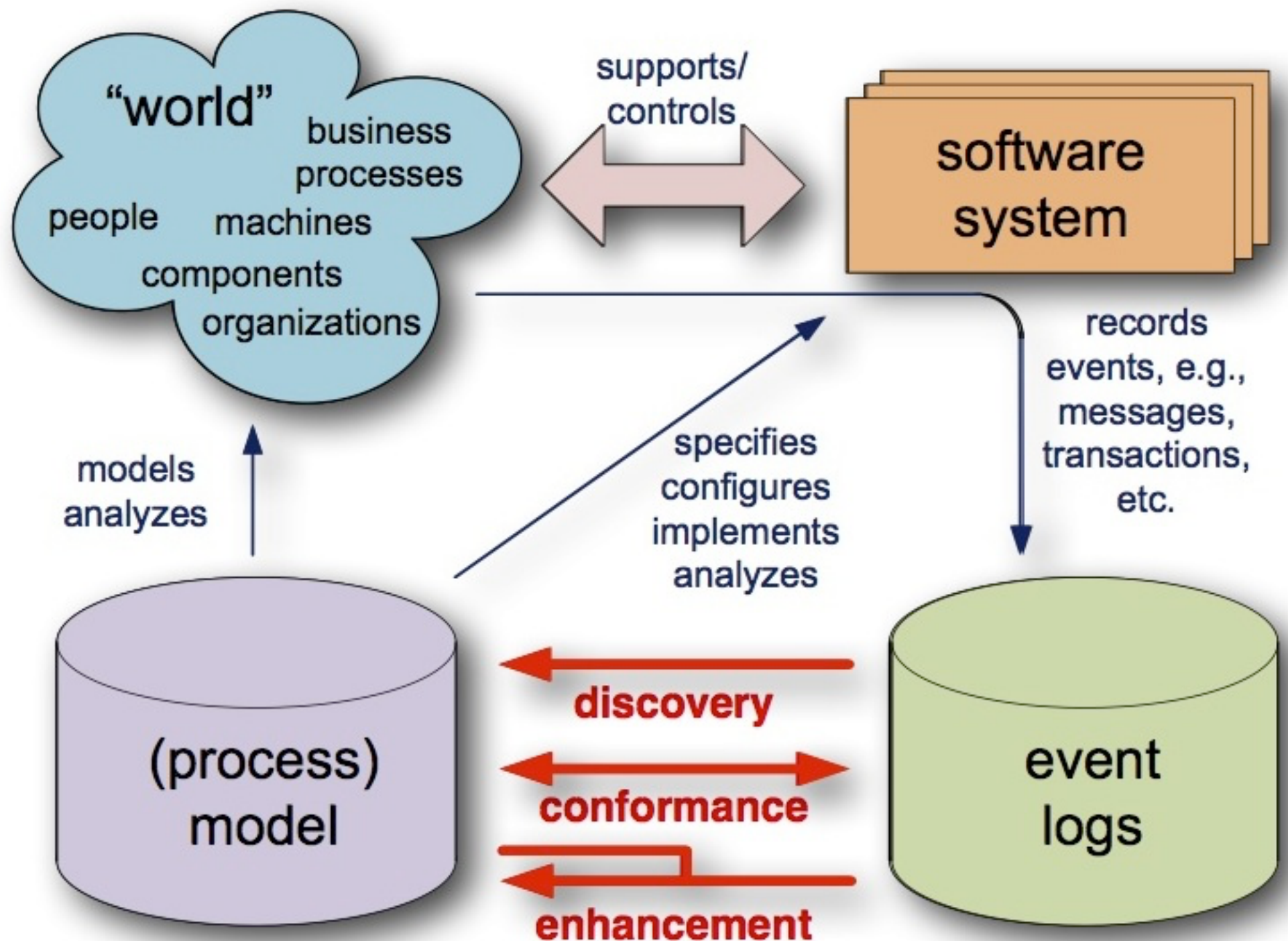


Management of Event Logs

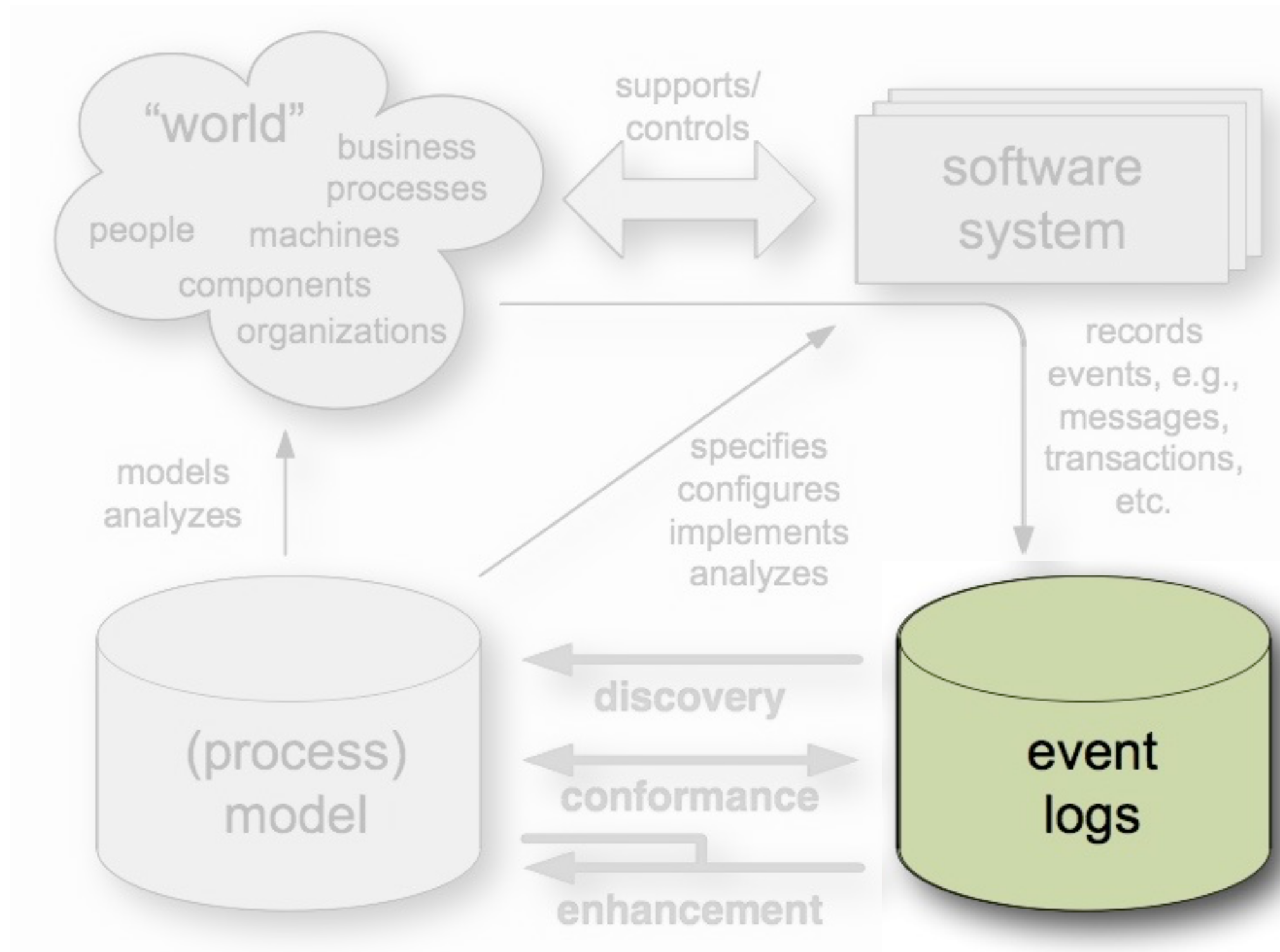


1st KAOS Project Meeting

Process Mining



Process Mining



Actual Reality



Log in to EasyChair

EasyChair uses cookies for user authentication. To use EasyChair, you should **allow your browser to save cookies from easychair.org**.

User name:

Password:

Log in

If you have no EasyChair account, [create an account](#)

Forgot your password? [click here](#)

Problems to log in? [click here](#)

Actual Reality

LOGIN	
ID	User
1	Alifah Syamsiyah
2	Marco Montali
3	Diego Calvanese
4	Wil van der Aalst

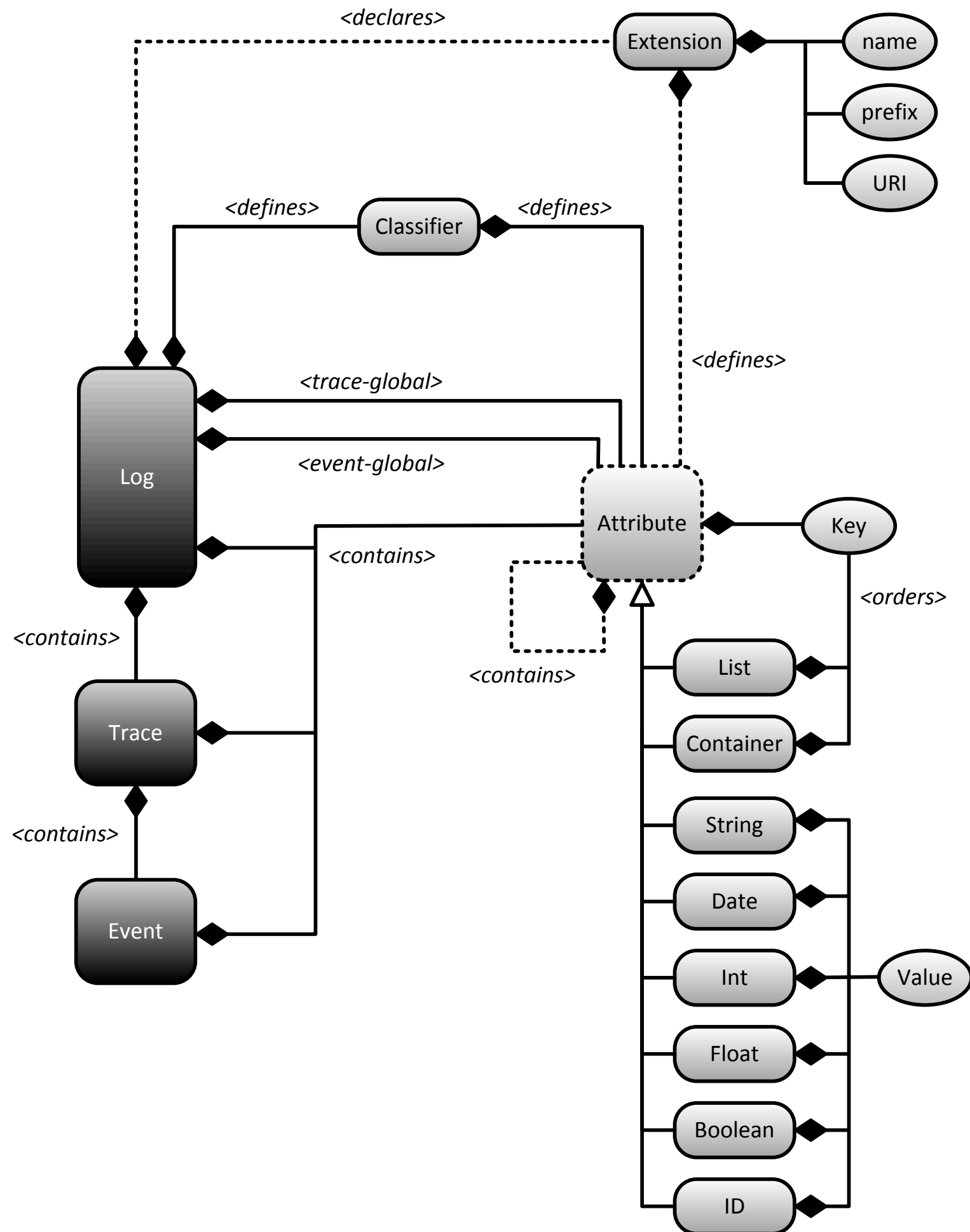
CONFERENCE			
ID	Name	Organizer	Time
666	BPM 2015	2	2015-02-14 01:00:00
667	Caise 2015	4	2015-03-06 01:00:00
668	ER 2015	4	2015-03-26 01:00:00
669	EDOC 2015	2	2015-04-05 03:00:00

PAPERINFO						
ID	Title	CT	User	Conf	Type	Status
1	Ontop at Work	2015-03-02 15:09:35	1	669	FP	RX
2	A Survey of Web Services	2015-03-02 12:36:01	3	668	SP	RX
3	The Definitive Guide for BPM	2015-03-04 13:36:20	1	666	FP	AB

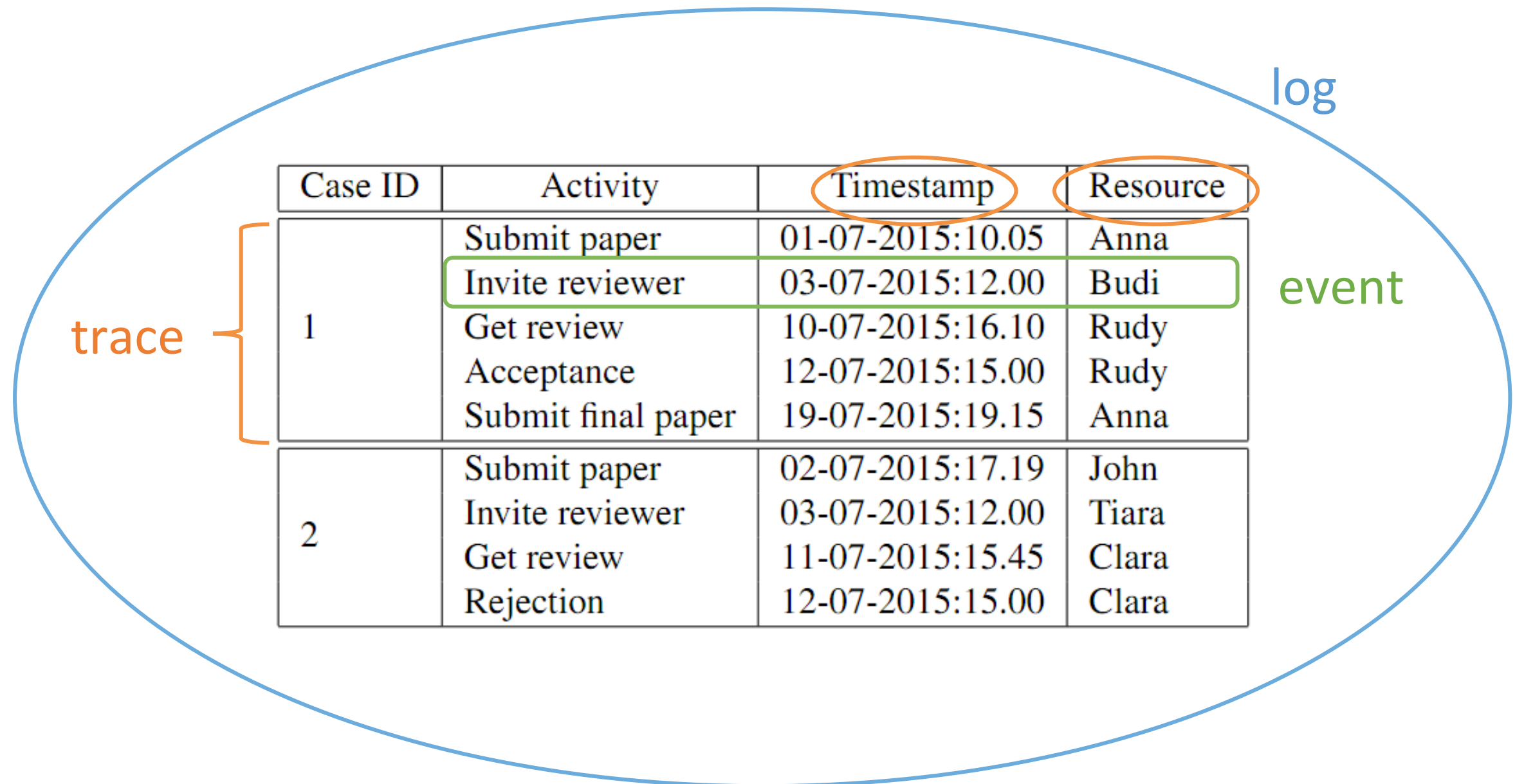
Expected Reality

IEEE XES standard
for event logs

- Based on XML
- Minimalistic
- Data+metadata



Expected Reality

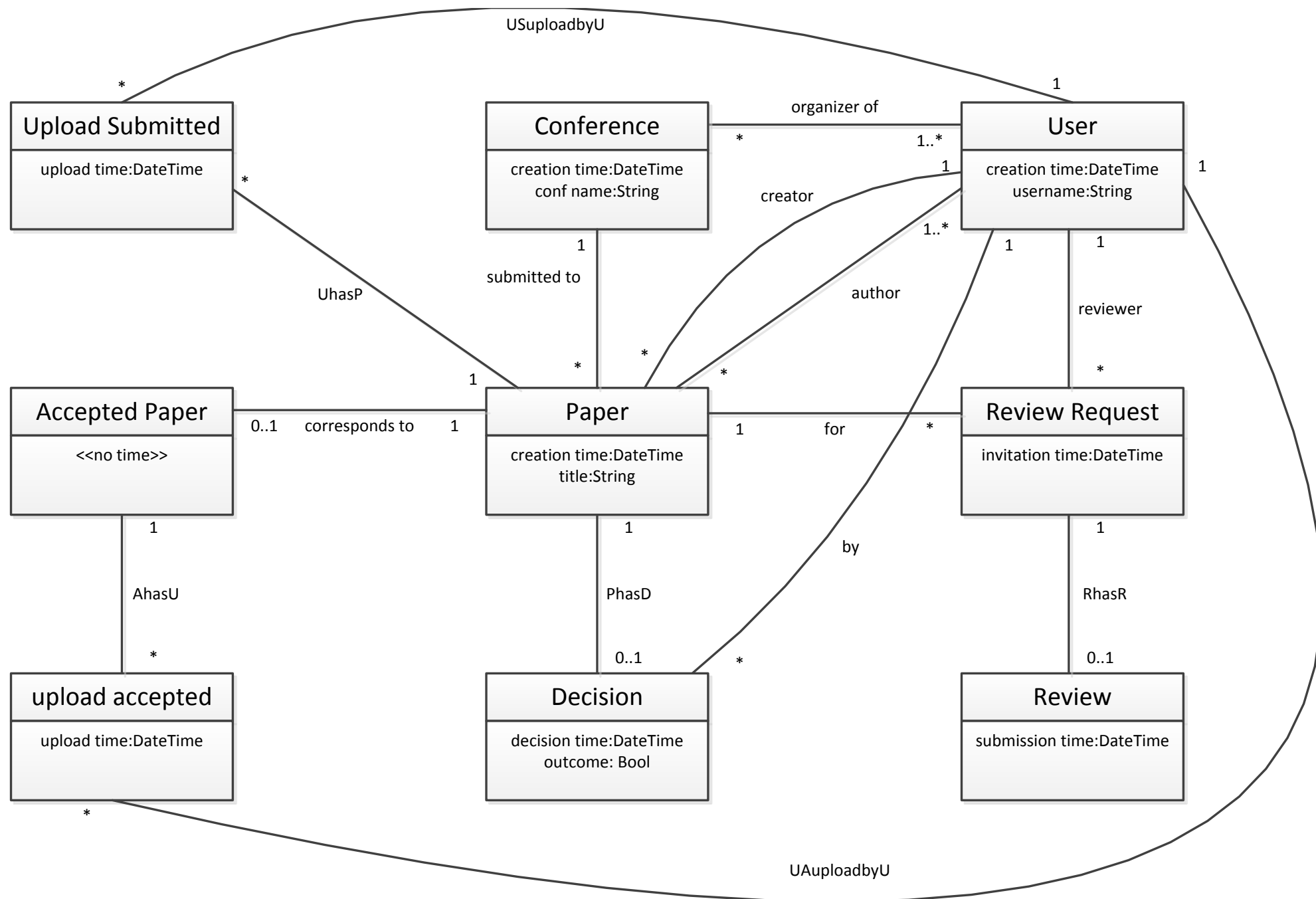


Expected Reality

XES standard for event logs

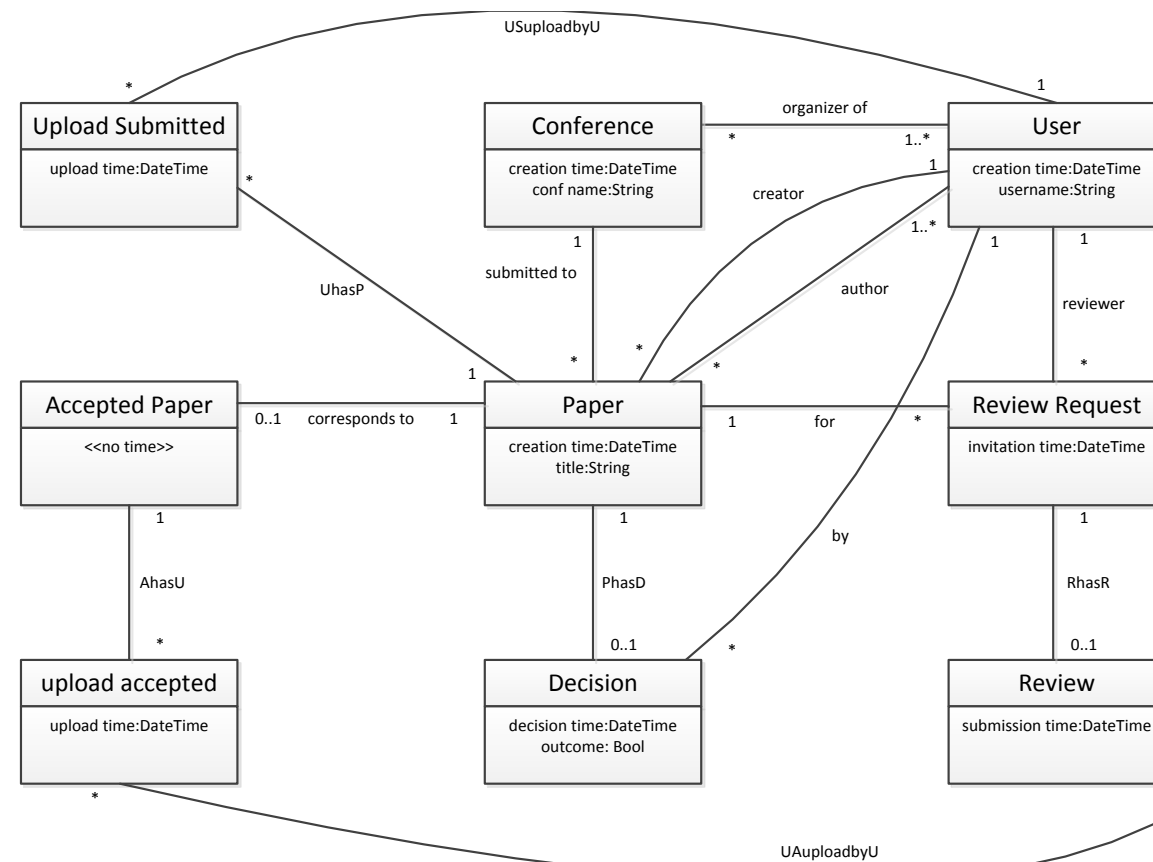
```
<log xes.version="1.0" xes.features="nested-attributes">
<trace>
  <string key="concept:name" value="1" />
  <event>
    <string key="concept:name" value="register request" />
    <date key="time:timestamp" value="2010-12-30T11:02:00.000+01:00" />
  </event>
</trace>
```


Understanding Reality...



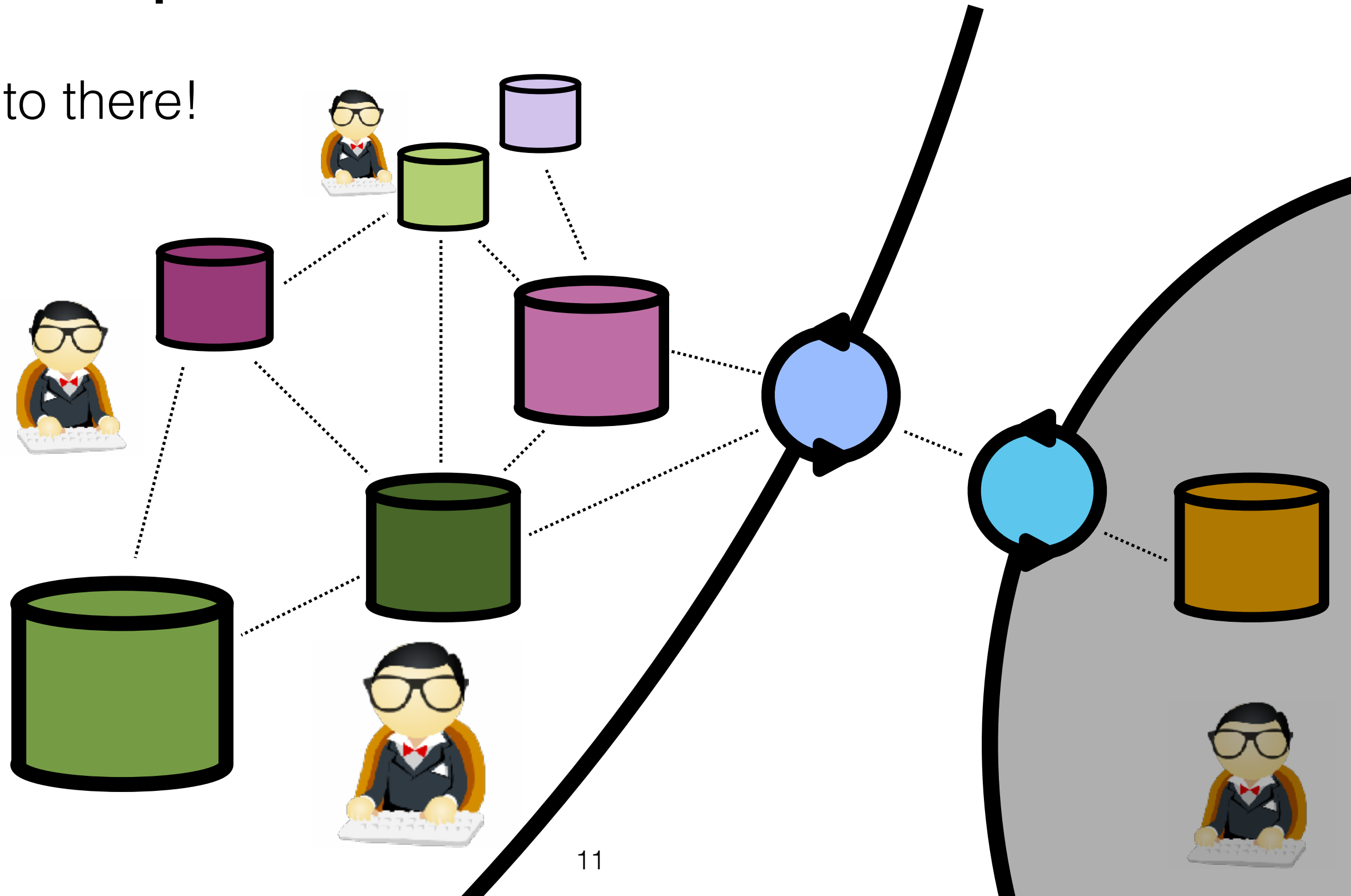
Impedance Mismatch

From here...

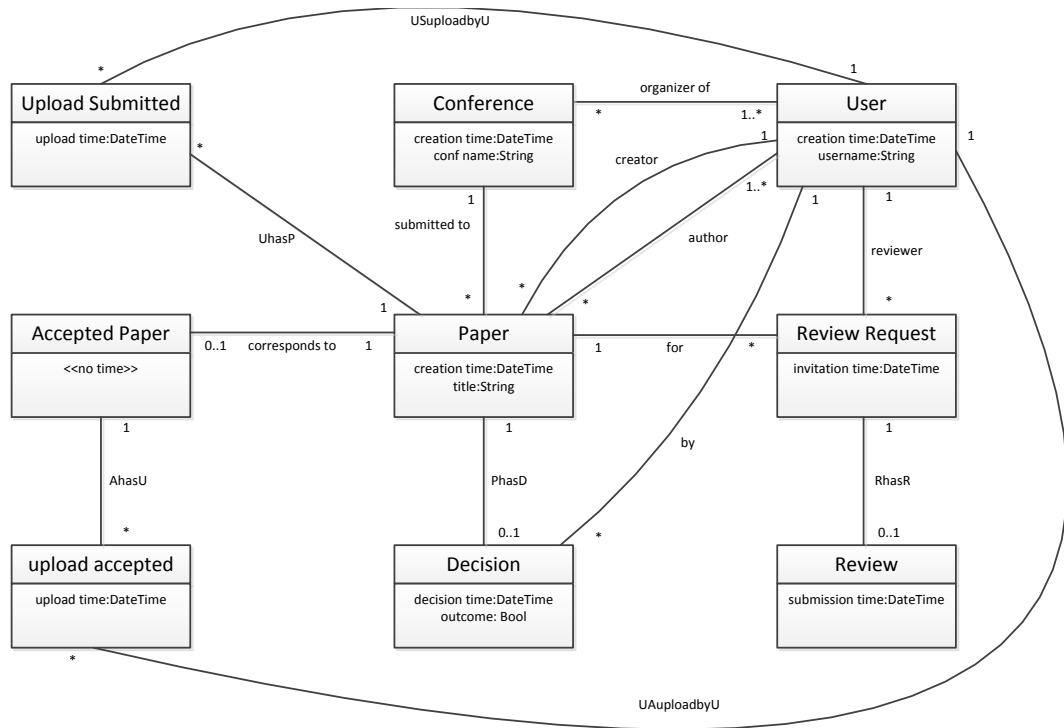


Impedance Mismatch

...to there!



Key Issues



LOGIN	
ID	User
1	Alifah Syamsiyah
2	Marco Montali
3	Diego Calvanese
4	Wil van der Aalst

		CONFERENCE	
ID	Name	Organizer	Time
666	BPM 2015	2	2015-02-14 01:00:00
667	Caise 2015	4	2015-03-06 01:00:00
668	ER 2015	4	2015-03-26 01:00:00
669	EDOC 2015	2	2015-04-05 03:00:00

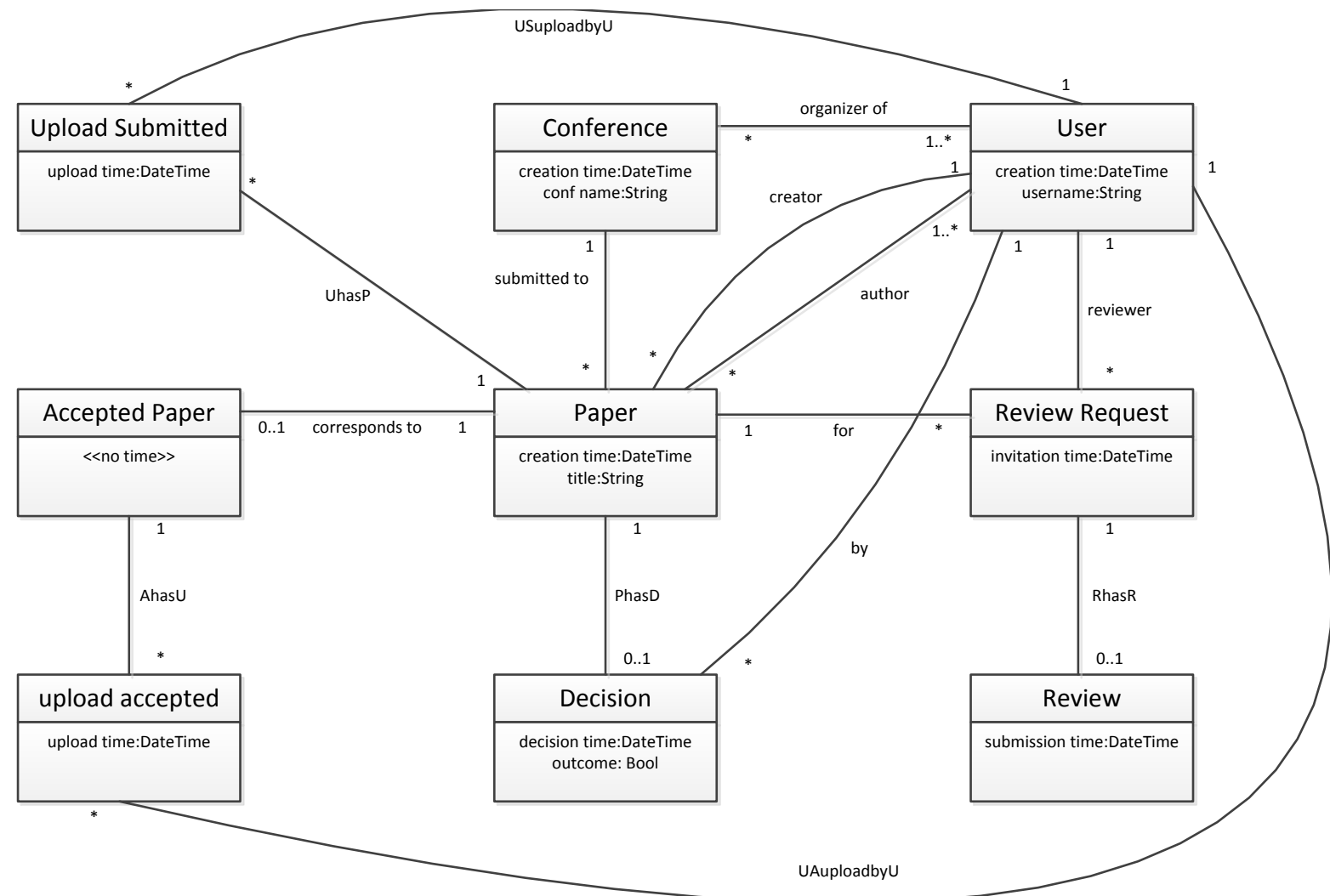
PAPERINFO						
ID	Title	CT	User	Conf	Type	Status
1	Ontop at Work	2015-03-02 15:09:35	1	669	FP	RX
2	A Survey of Web Services	2015-03-02 12:36:01	3	668	SP	RX
3	The Definitive Guide for BPM	2015-03-04 13:36:20	1	666	FP	AB

- How to resolve the “impedance mismatch”?
- How to get a “view” of the data tailored to process mining?

Key Issues

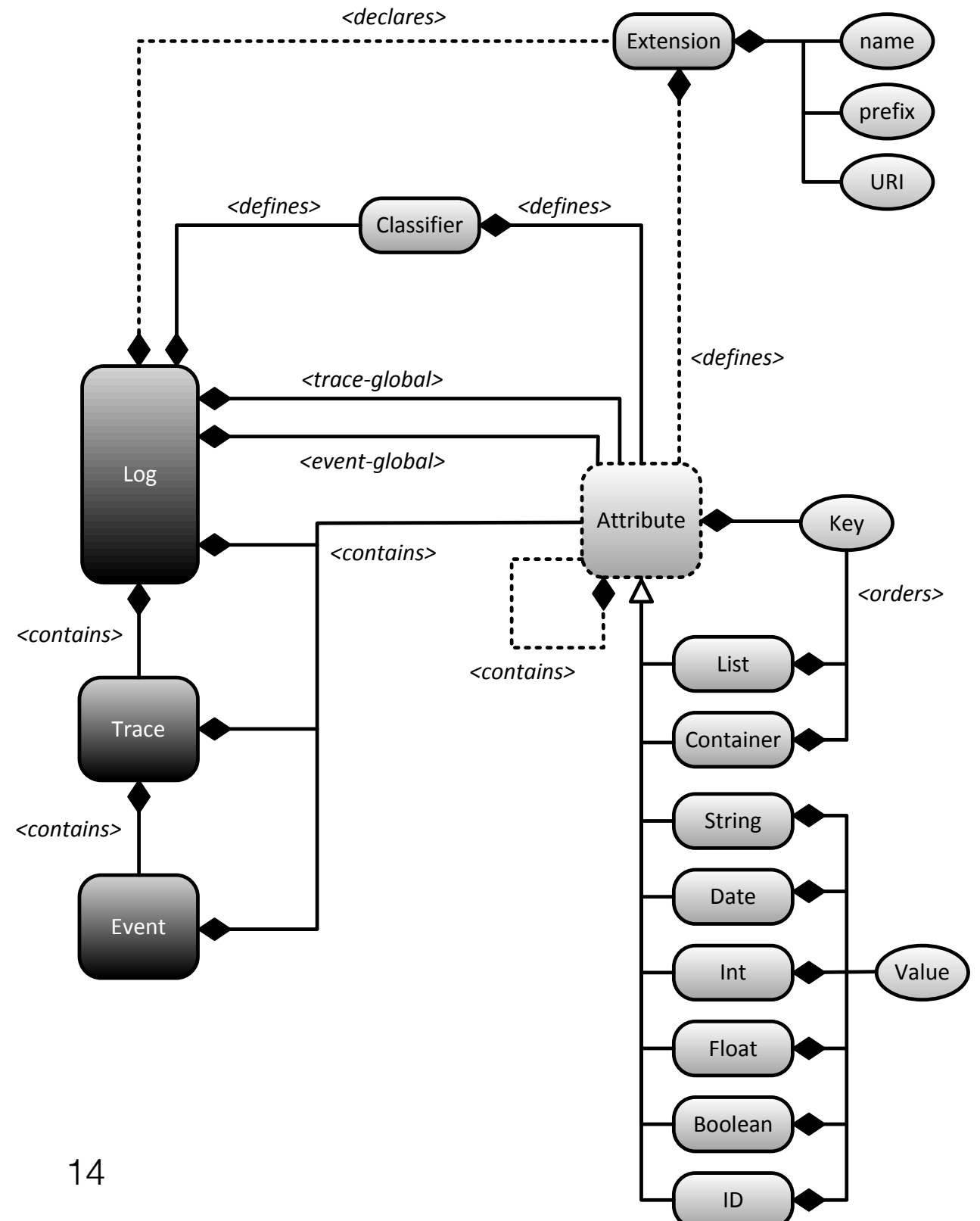
- Need to resolve a second impedance mismatch problem!

- From here...



Key Issues

- ...To there!



Key Issues

- From here....

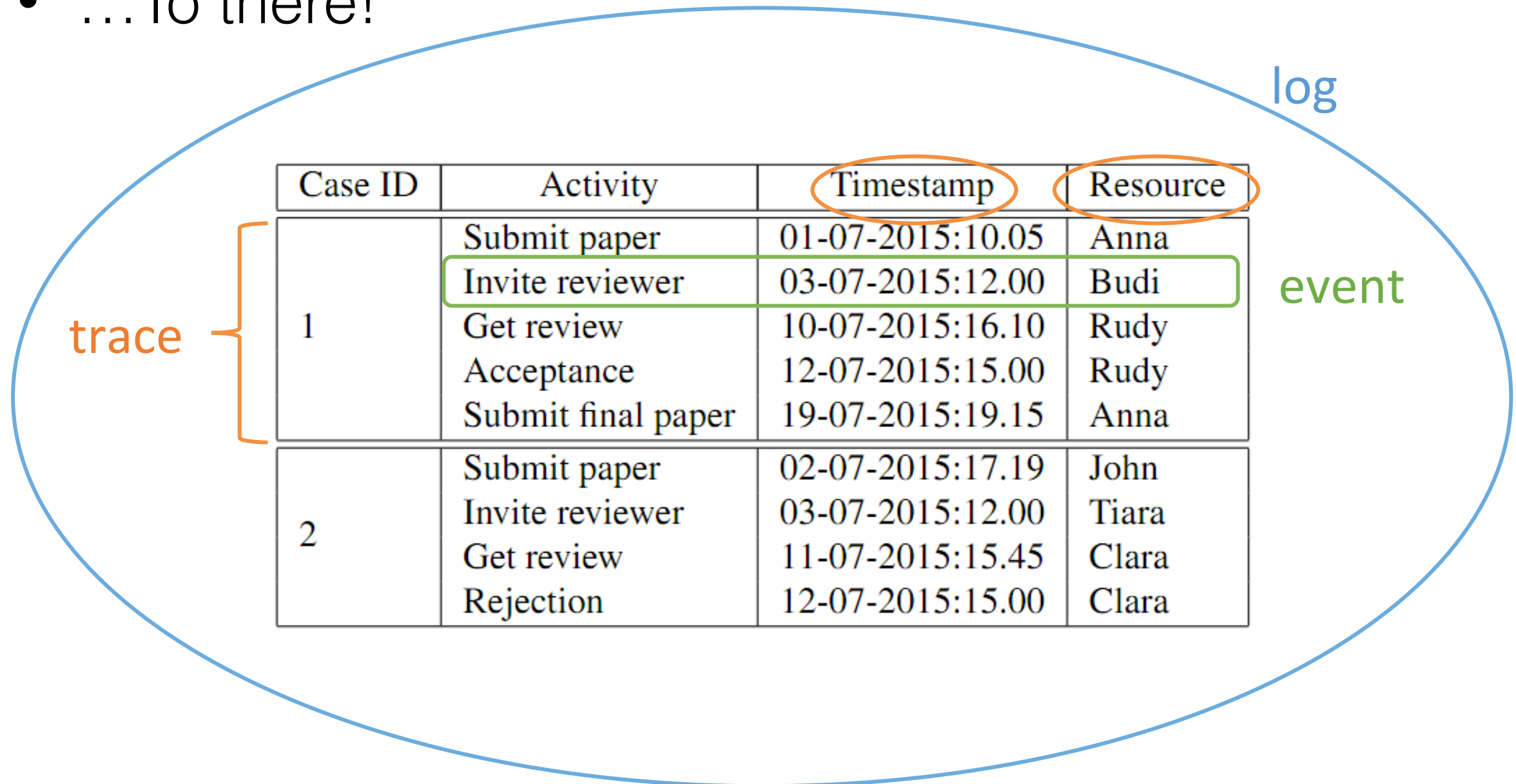
LOGIN	
ID	User
1	Alifah Syamsiyah
2	Marco Montali
3	Diego Calvanese
4	Wil van der Aalst

CONFERENCE			
ID	Name	Organizer	Time
666	BPM 2015	2	2015-02-14 01:00:00
667	Caise 2015	4	2015-03-06 01:00:00
668	ER 2015	4	2015-03-26 01:00:00
669	EDOC 2015	2	2015-04-05 03:00:00

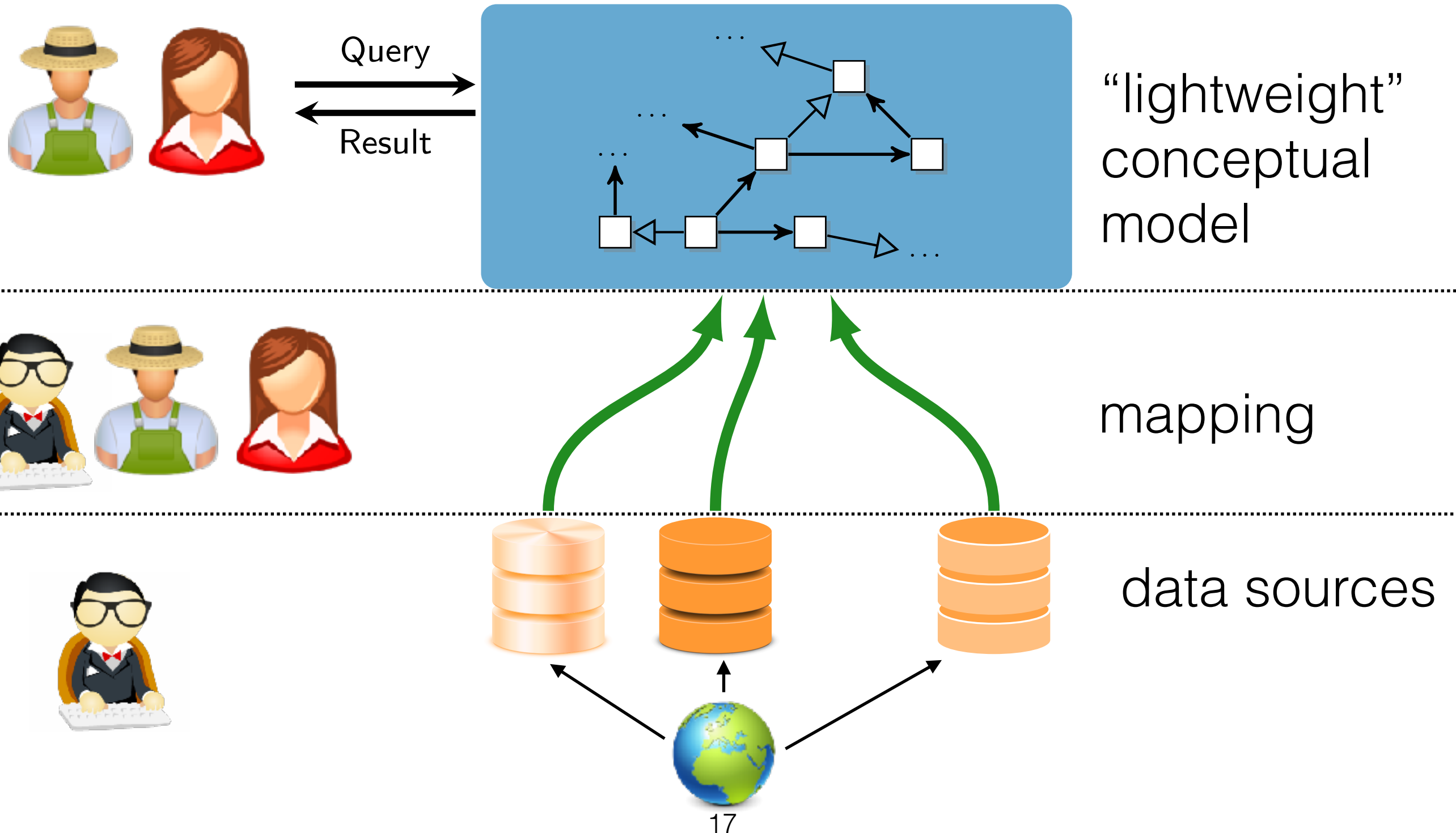
PAPERINFO							
ID	Title	CT	User	Conf	Type	Status	
1	Ontop at Work	2015-03-02 15:09:35	1	669	FP	RX	
2	A Survey of Web Services	2015-03-02 12:36:01	3	668	SP	RX	
3	The Definitive Guide for BPM	2015-03-04 13:36:20	1	666	FP	AB	

Key Issues

- ...To there!



Ontology-Based Data Access



Resolving the Impedance Mismatch

PAPERINFO

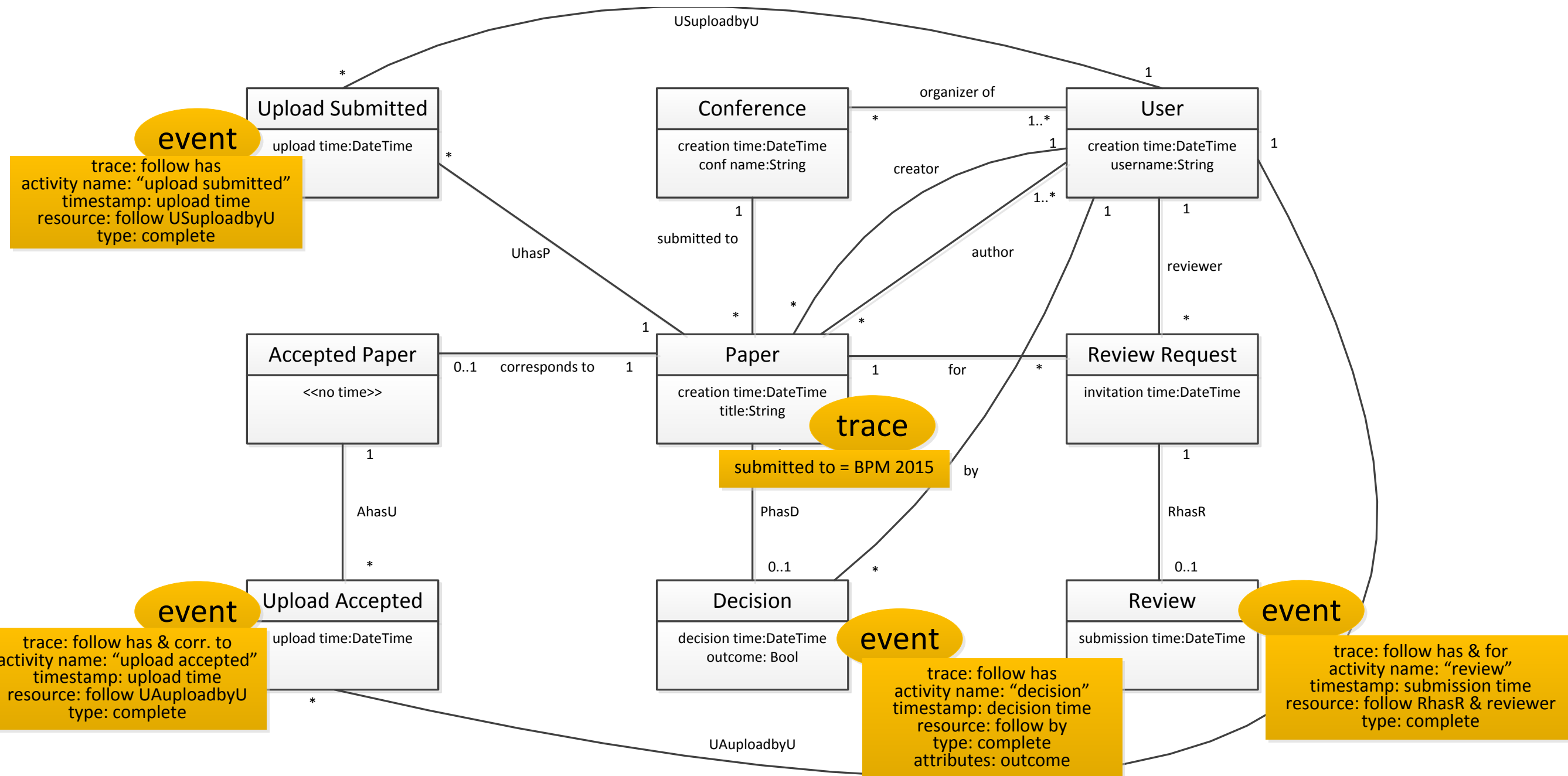
ID	Title	CT	User	Conf	Type	Status
1	Ontop at Work	2015-03-02 15:09:35	1	669	FP	RX
2	A Survey of Web Services	2015-03-02 12:36:01	3	668	SP	RX
3	The Definitive Guide for BPM	2015-03-04 13:36:20	1	666	FP	AB

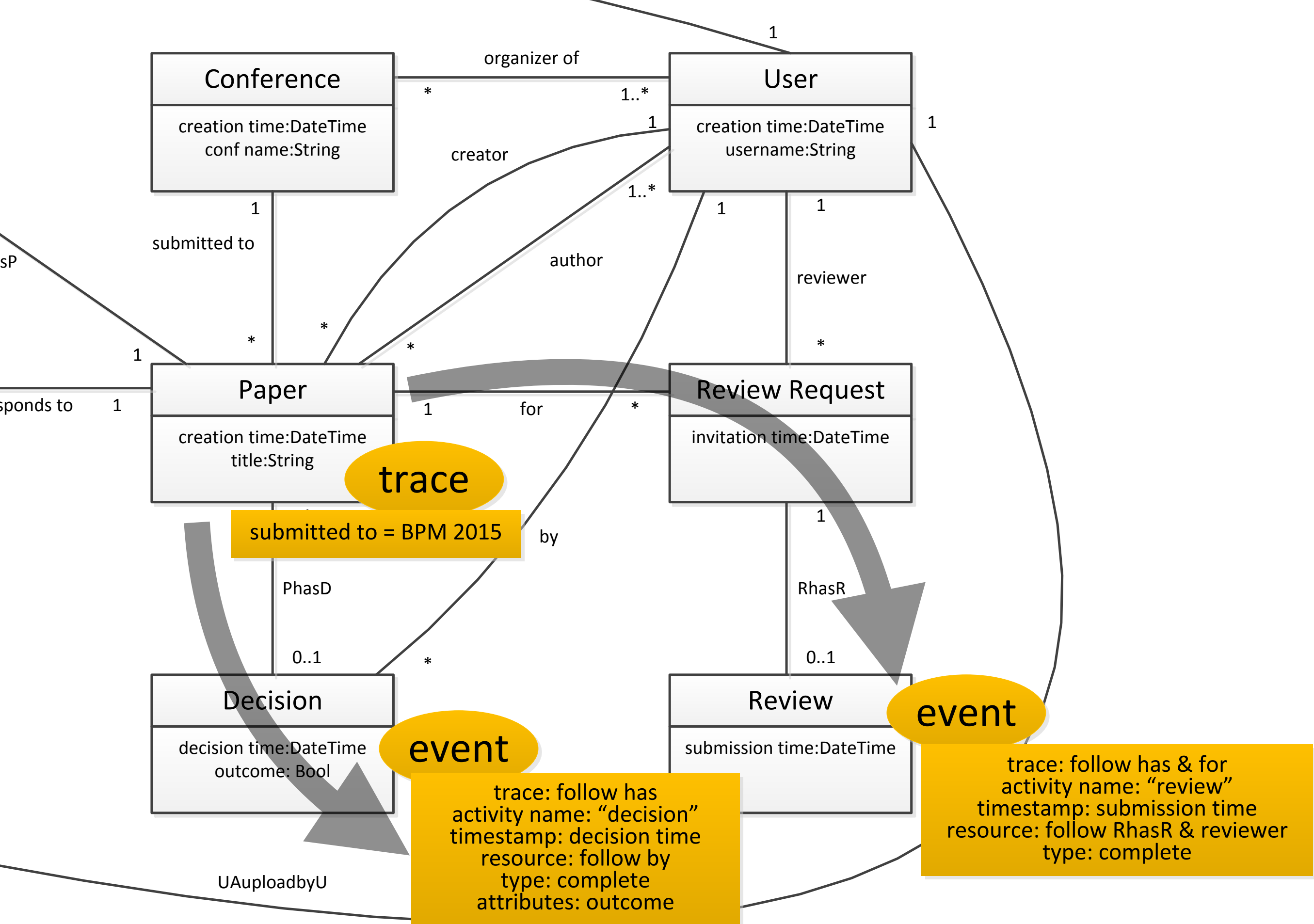
FullPaper

creationTime: DateTime
title: String

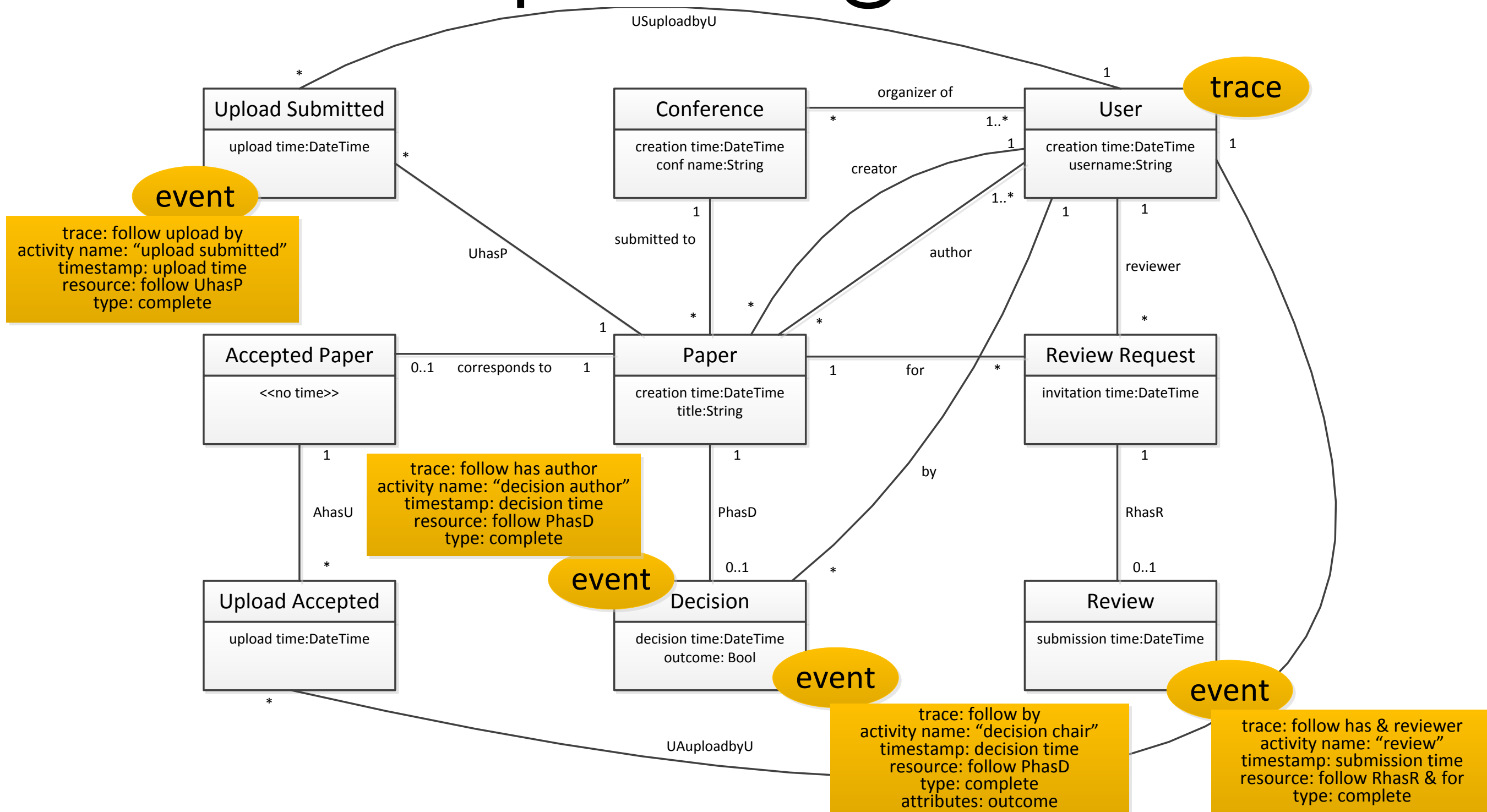
mappingId	fp-mapping
target	paper{ID} a :FullPaper; :title {Title}; :creationTime{CT}
source	select I.ID, I.Title, I.CT from PaperInfo I where I.Type = "FP"

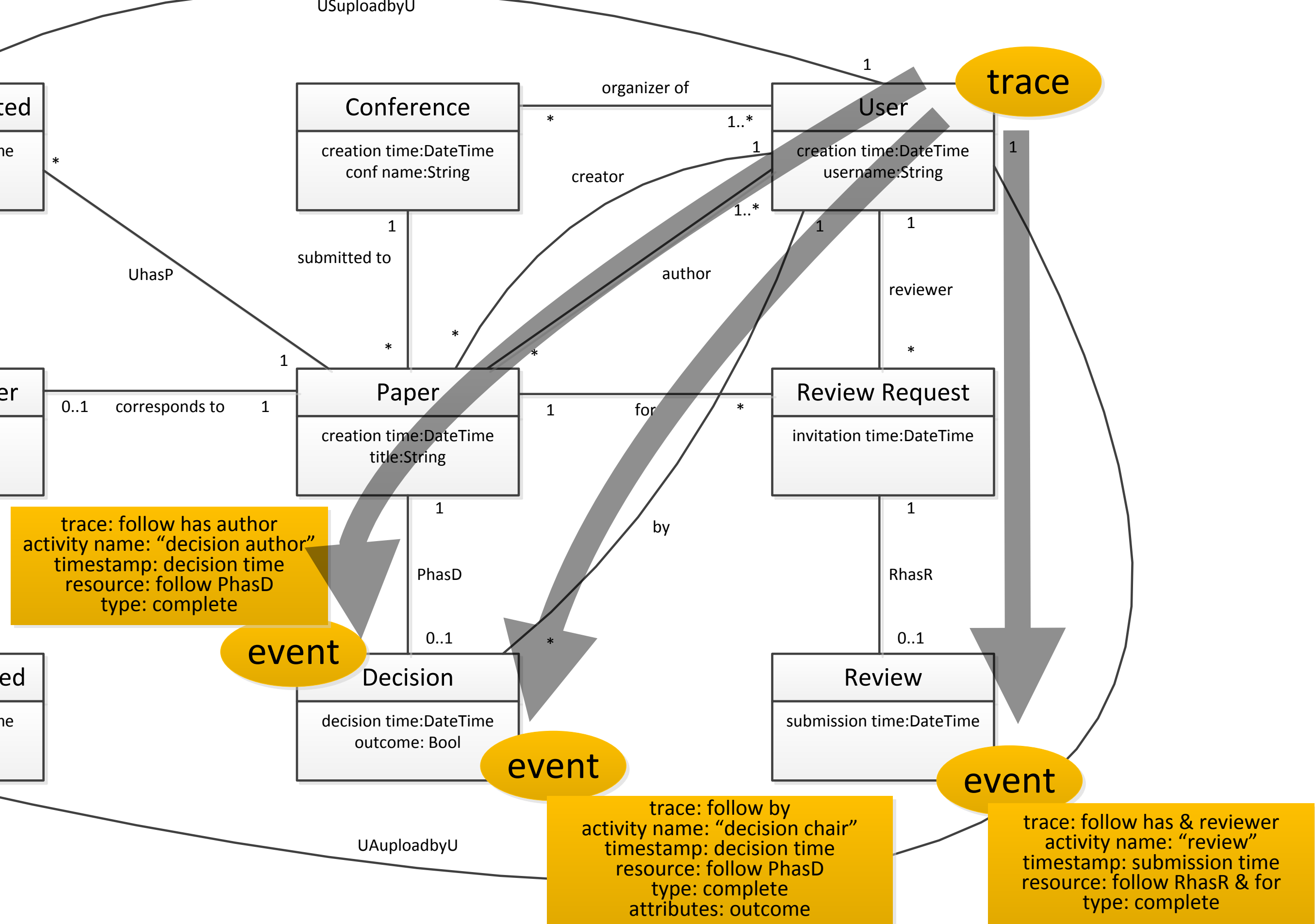
Log Annotations



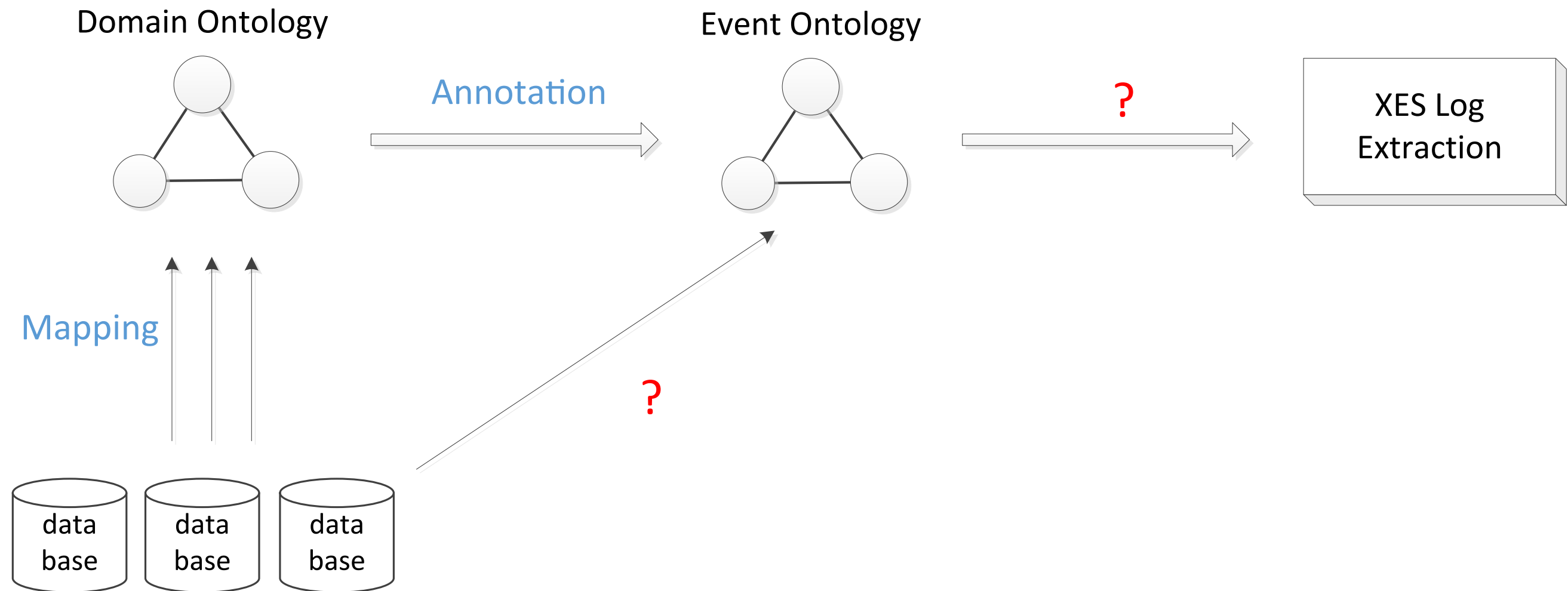


Multiple Log Views

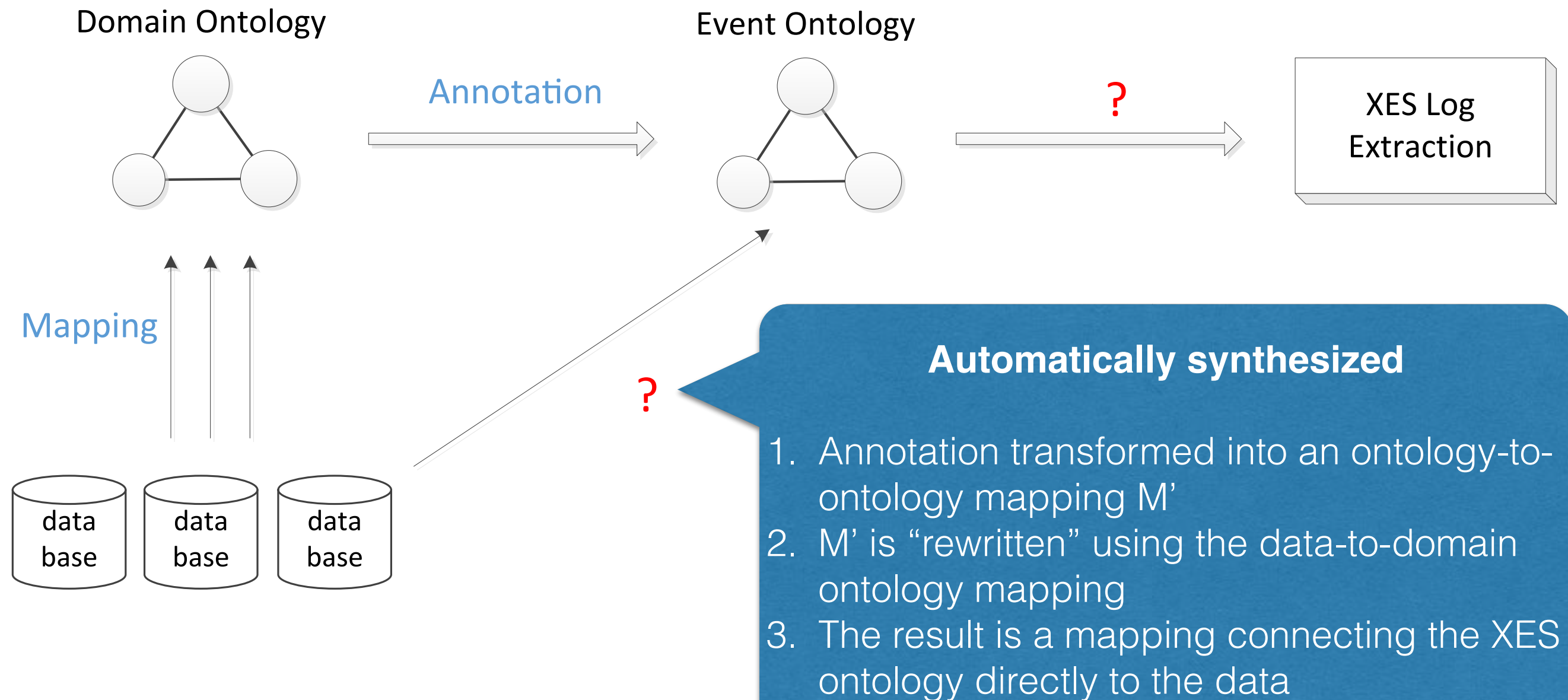




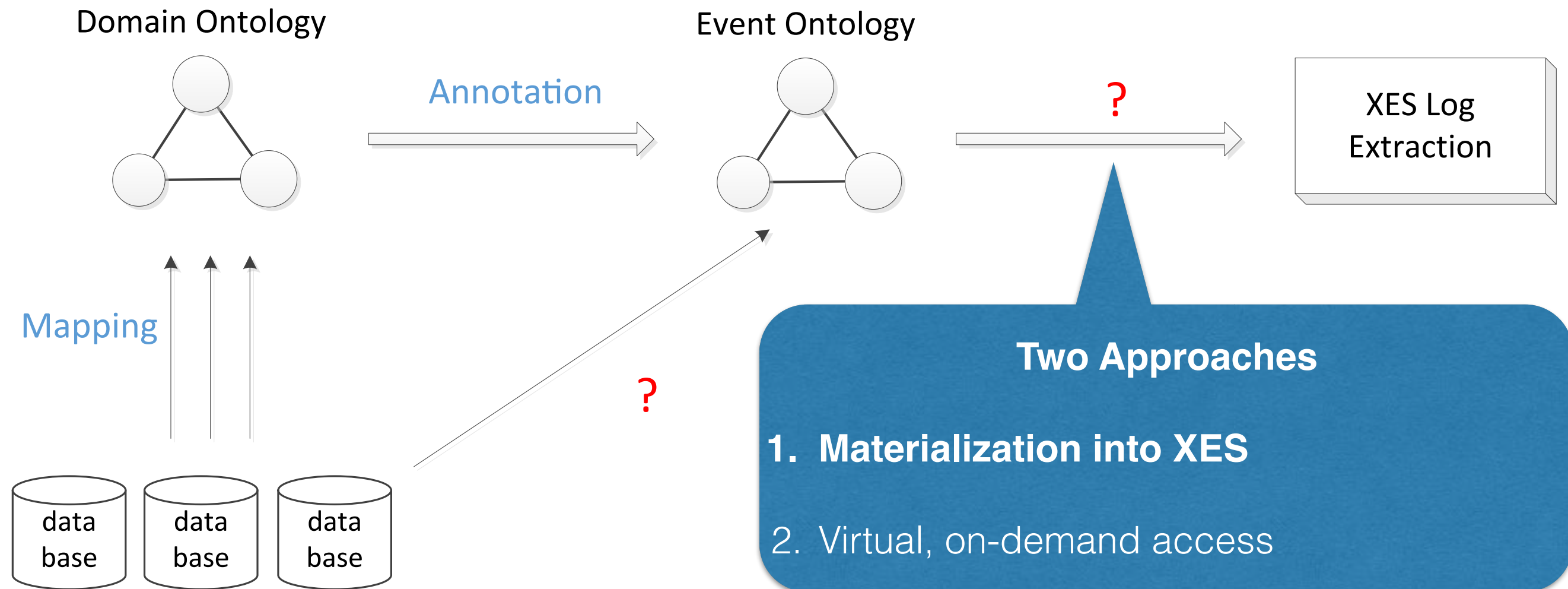
And Now?



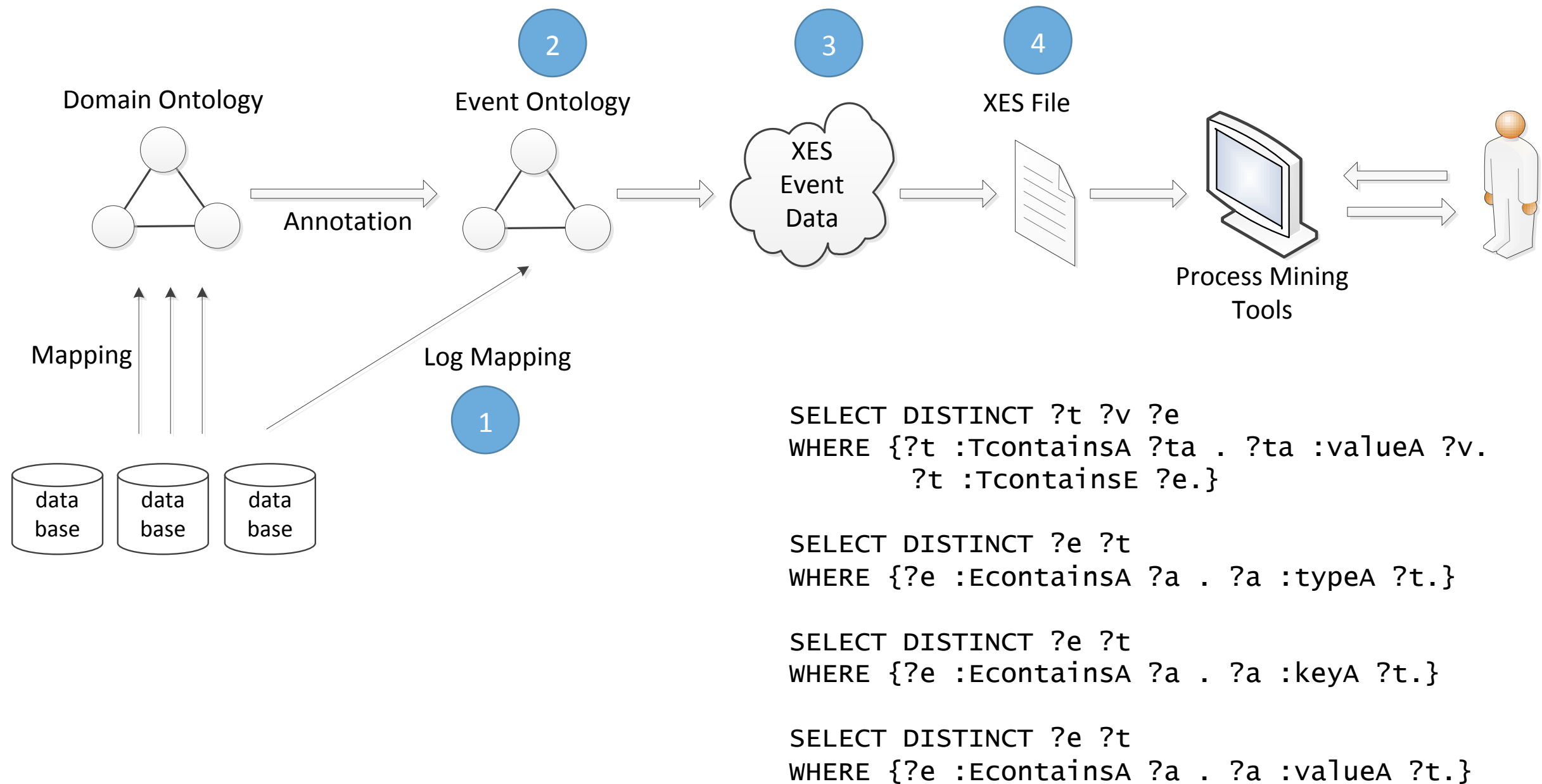
Mapping Synthesis



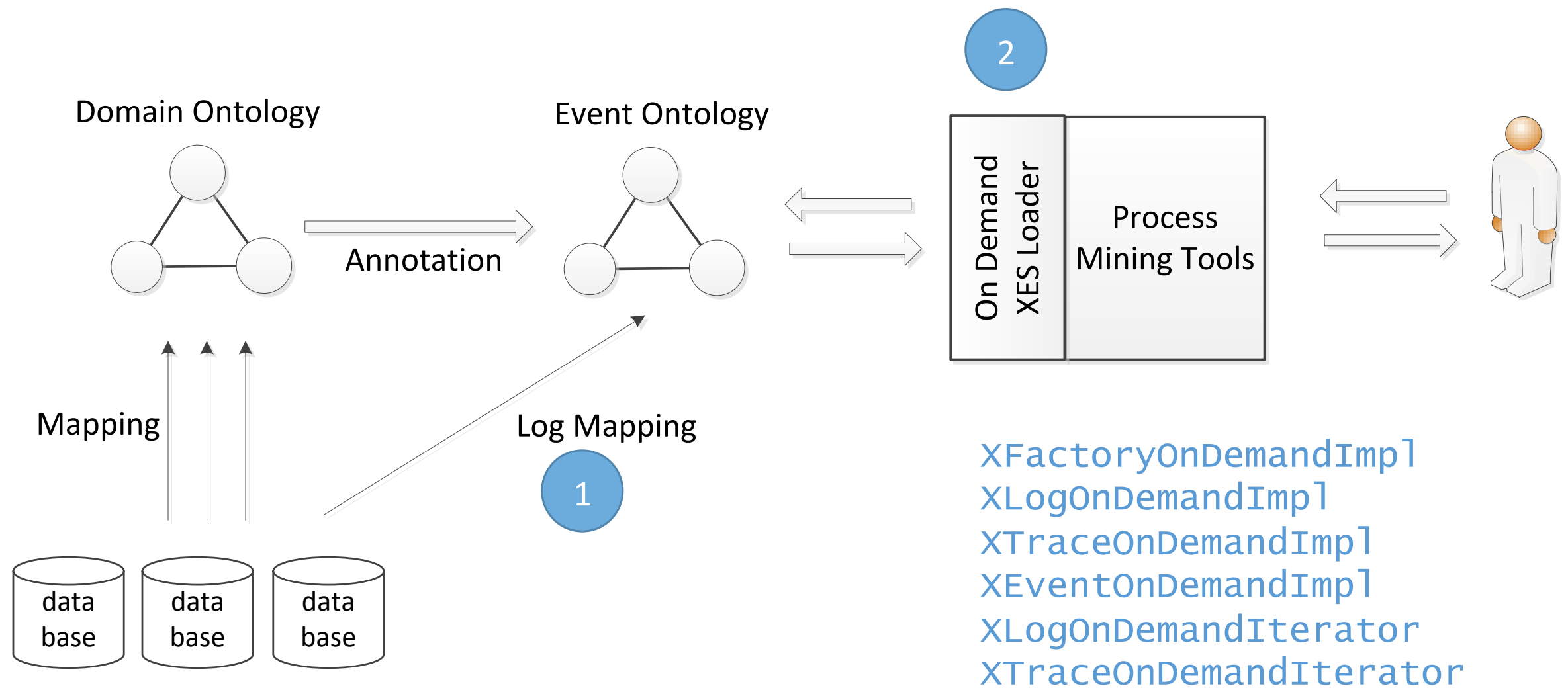
Mapping Synthesis



Log Materialization



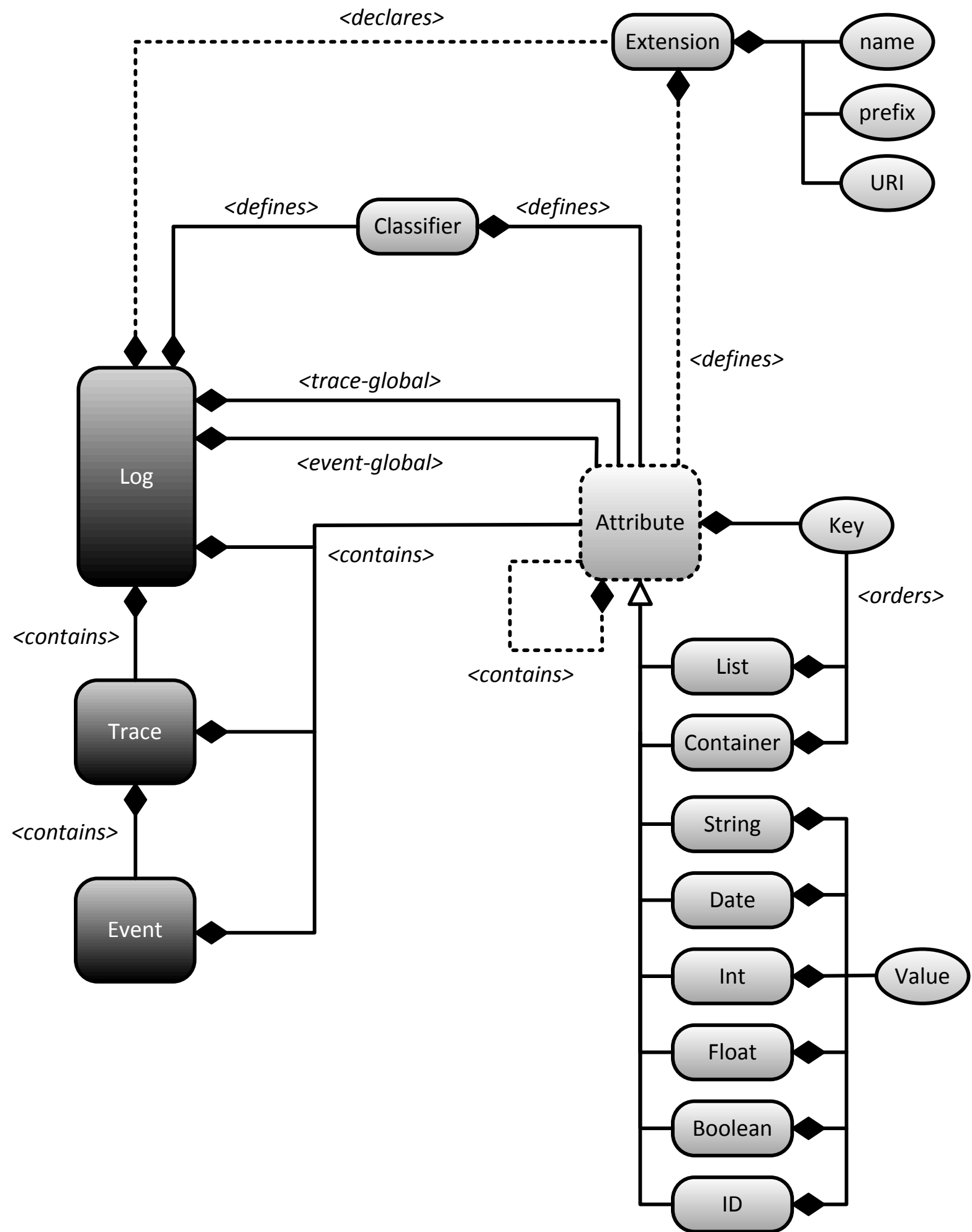
Log Virtualization



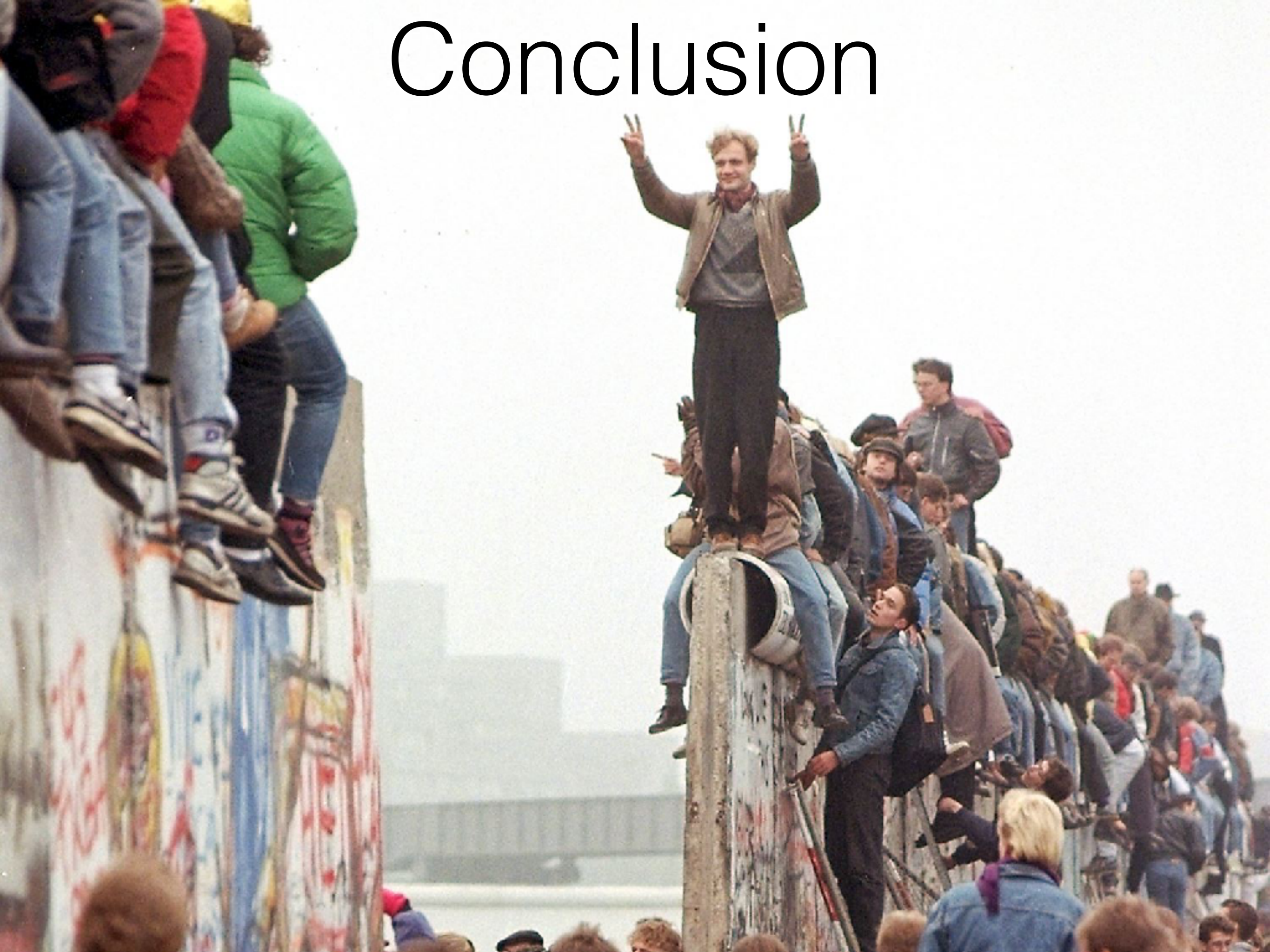
`xlog.get(7).get(90)` to retrieve the event in index 7th inside the 90th trace in a log

Questions

- How to optimize and test the scalability of the approach? Fine-tuning is a must!
- Is the “virtual” approach useful? How do process mining algorithms access the data?
- High-level approach vs “hands-on” language (a general question for process mining)
- Case studies!



Conclusion



Acknowledgments

All coauthors of this research,
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Wil van der Aalst (TU/e)