PERFECT MEMORY

Linked Media – Open Data

The Semantic Middleware

A native FIMS compliant architecture
to integrate hardware and software component

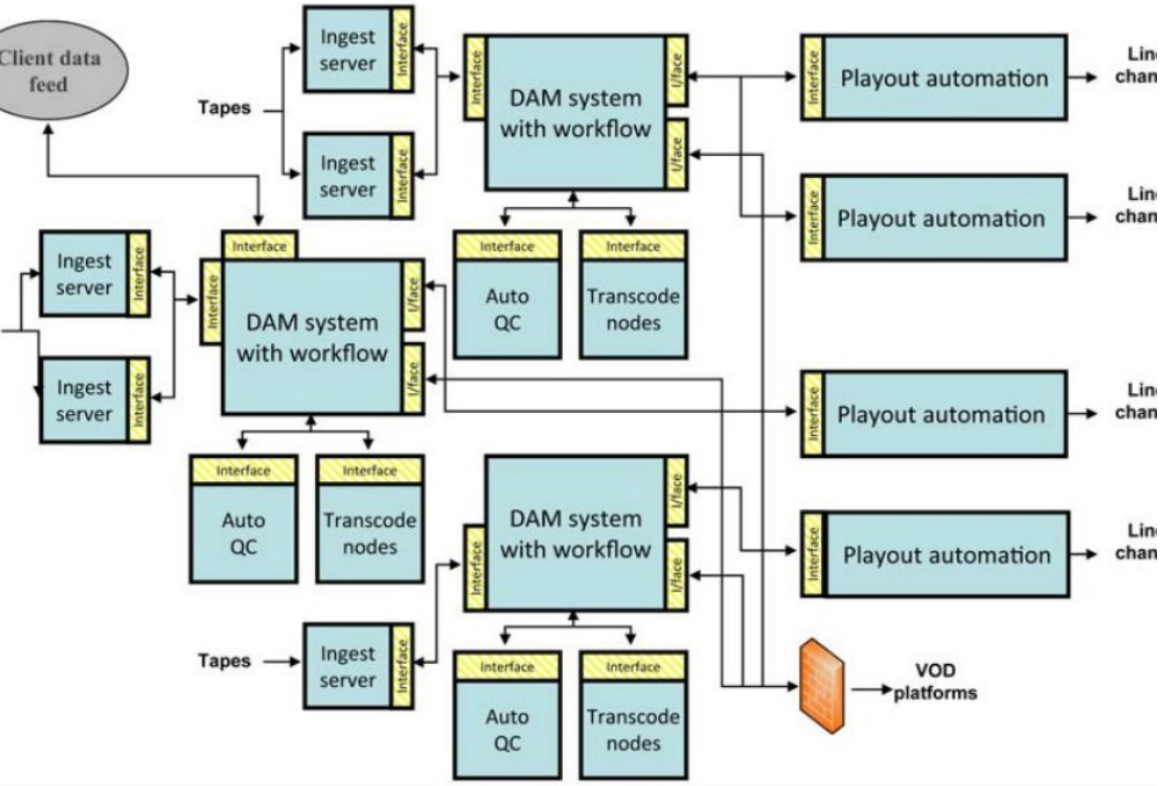
Guillaume Rachez – AV semantic engineer – Perfect Memory

Top 10 semantic startups: Semtech SFO 2013
Nominee IBC Award 2013: Emerging leader 2012

The data translation

WHY A MIDDLEWARE ?

Why a Middleware ?

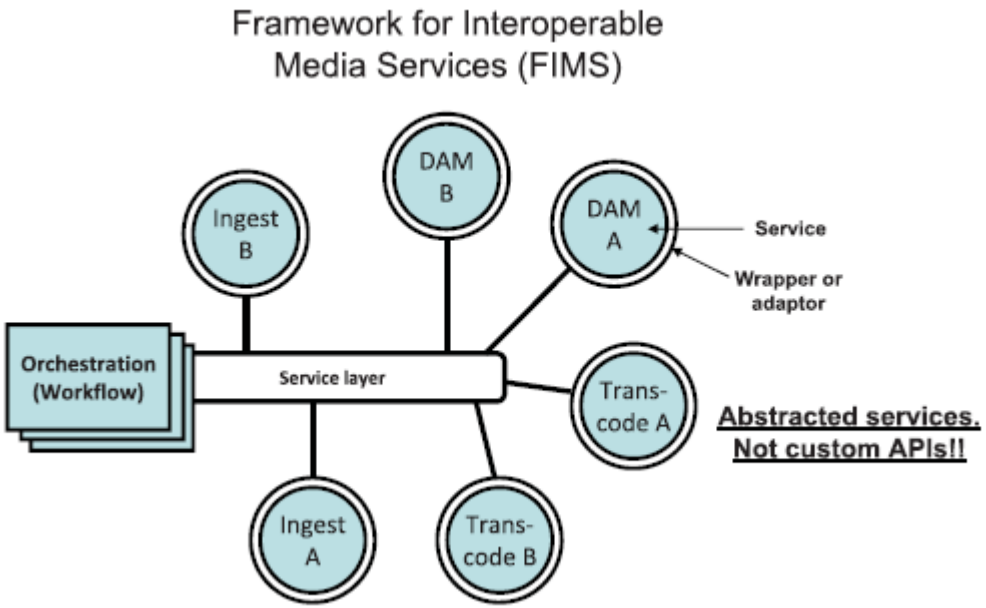


Current MAM communicates **between them, and only them.**

And if a new one appears, you need to make **the existing ones able to communicate with the new one**.

A Middleware avoids the **point to point connection**.
It exchanges data in an uniform language.

FIMS : SOA for production tasks



FIMS : a Service middleware

Develop the connections between the FIMS interface and the existing MAM.

Uniform the service access

Increase the scalability of the production chain.

An **authority format** will rule all the data exchanges.

Which data scheme will be chosen for data exchange ?

The information exchange

WHY A SEMANTIC **MIDDLEWARE ?**

Why a **Semantic** Middleware ?

Do not exchange DATA, but INFORMATION.

How is it possible ?

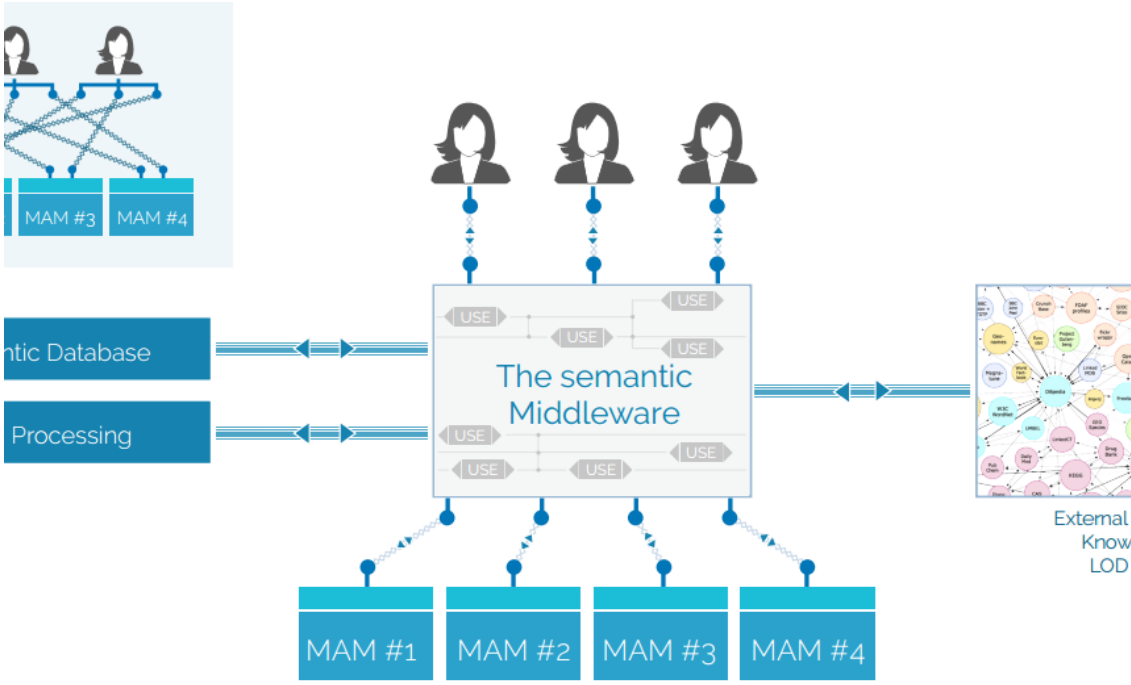
Because the semantic standards are natively interoperable.

Really ?

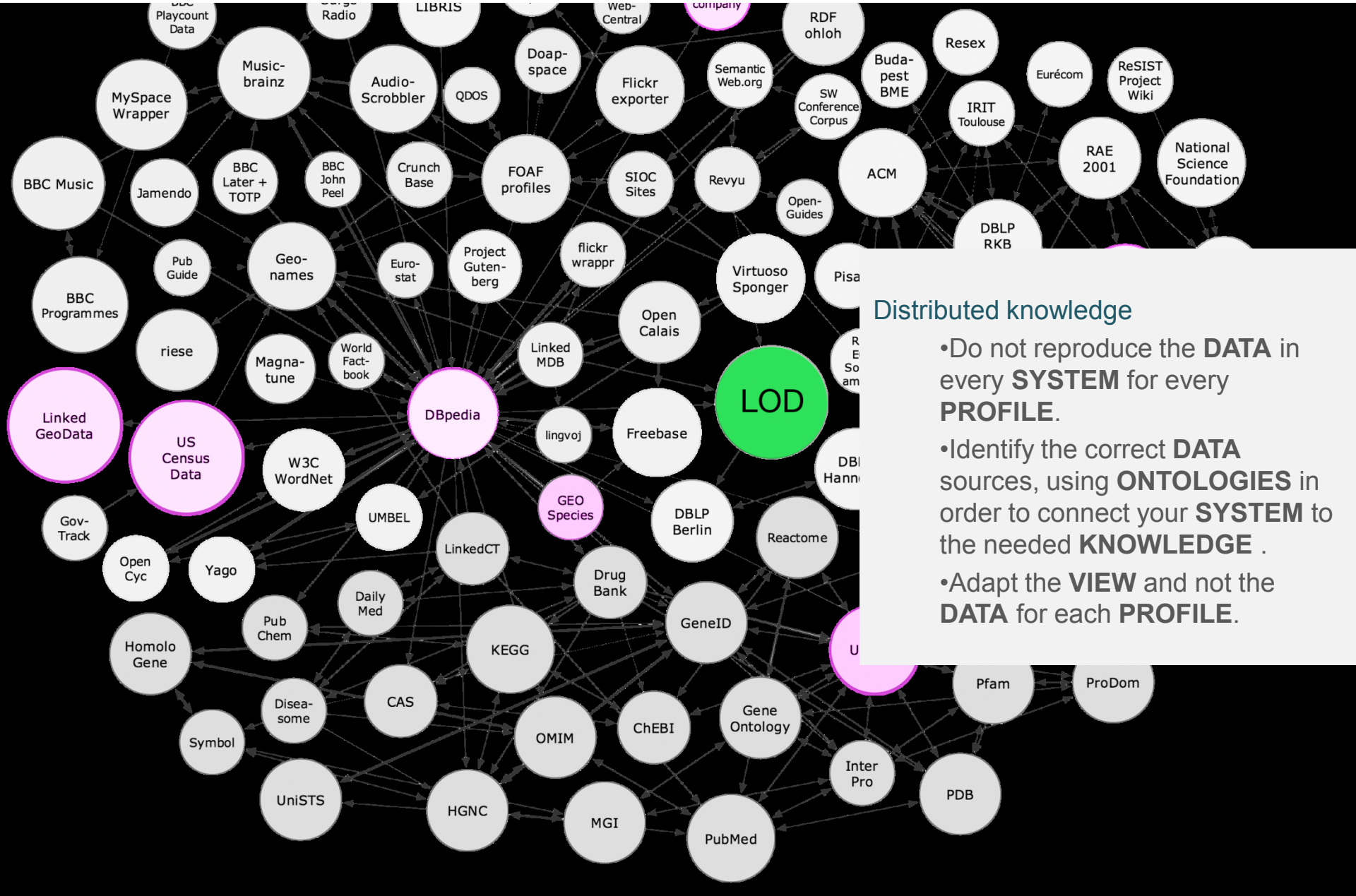
Yes, if the connectors and the storage uses the power of SEMANTIC reasoning.

Why this standard and not an other one ?

Because it has already started !



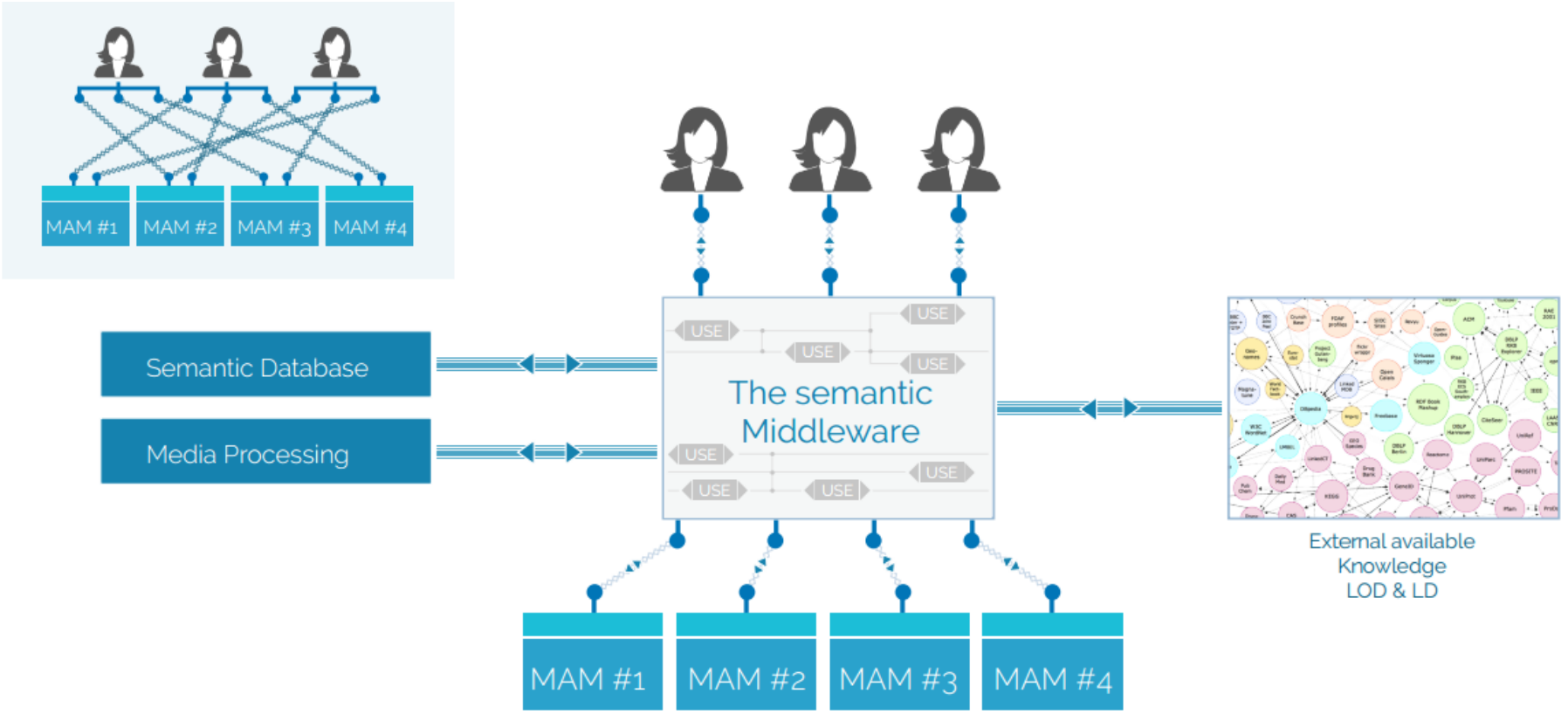
Linked Open Data



Distributed knowledge

- Do not reproduce the **DATA** in every **SYSTEM** for every **PROFILE**.
- Identify the correct **DATA** sources, using **ONTOLOGIES** in order to connect your **SYSTEM** to the needed **KNOWLEDGE** .
- Adapt the **VIEW** and not the **DATA** for each **PROFILE**.

The Perfect Memory semantic middleware : a FIMS compliant architecture… natively semantic

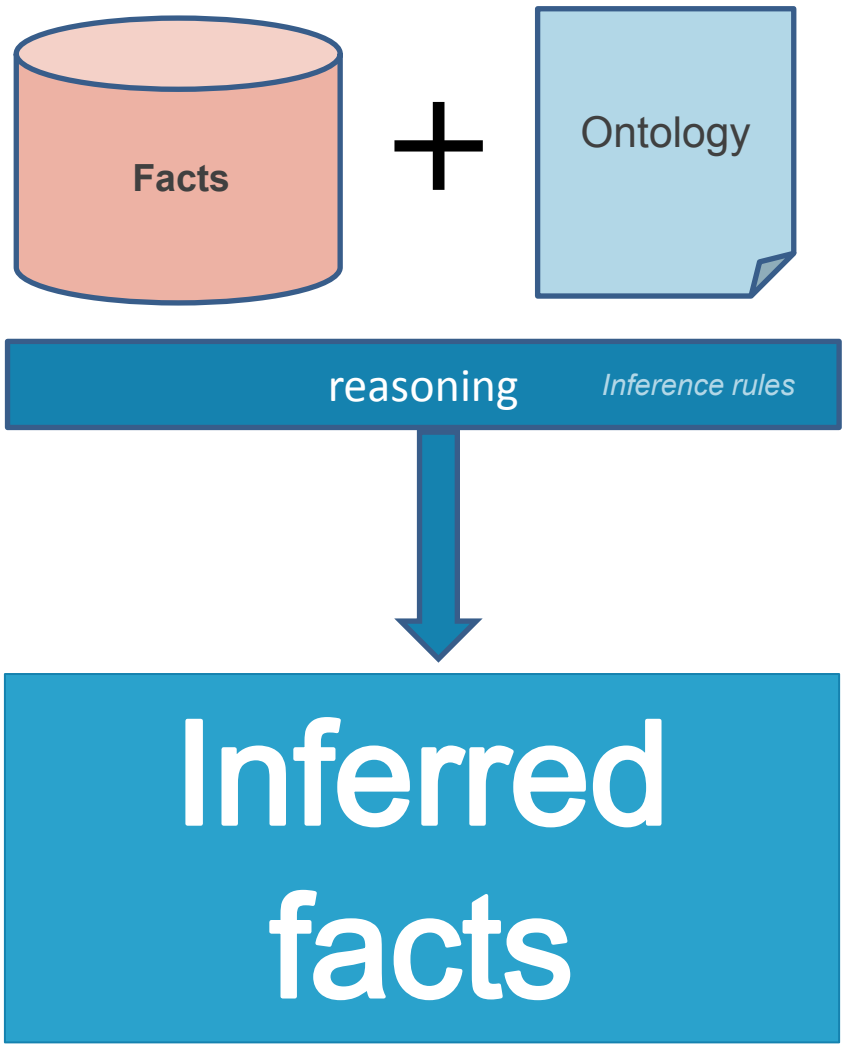


Use the semantic standards for Semantic modeling of the data.
Make the middleware language
standard, scalable, respectful to the conditions for Semantic Web connections.
Give the keys **for native interoperability by using reasoning on connectors**.

The information handling

WHAT IS THE SEMANTIC REASONING ?

What is the semantic reasoning ?

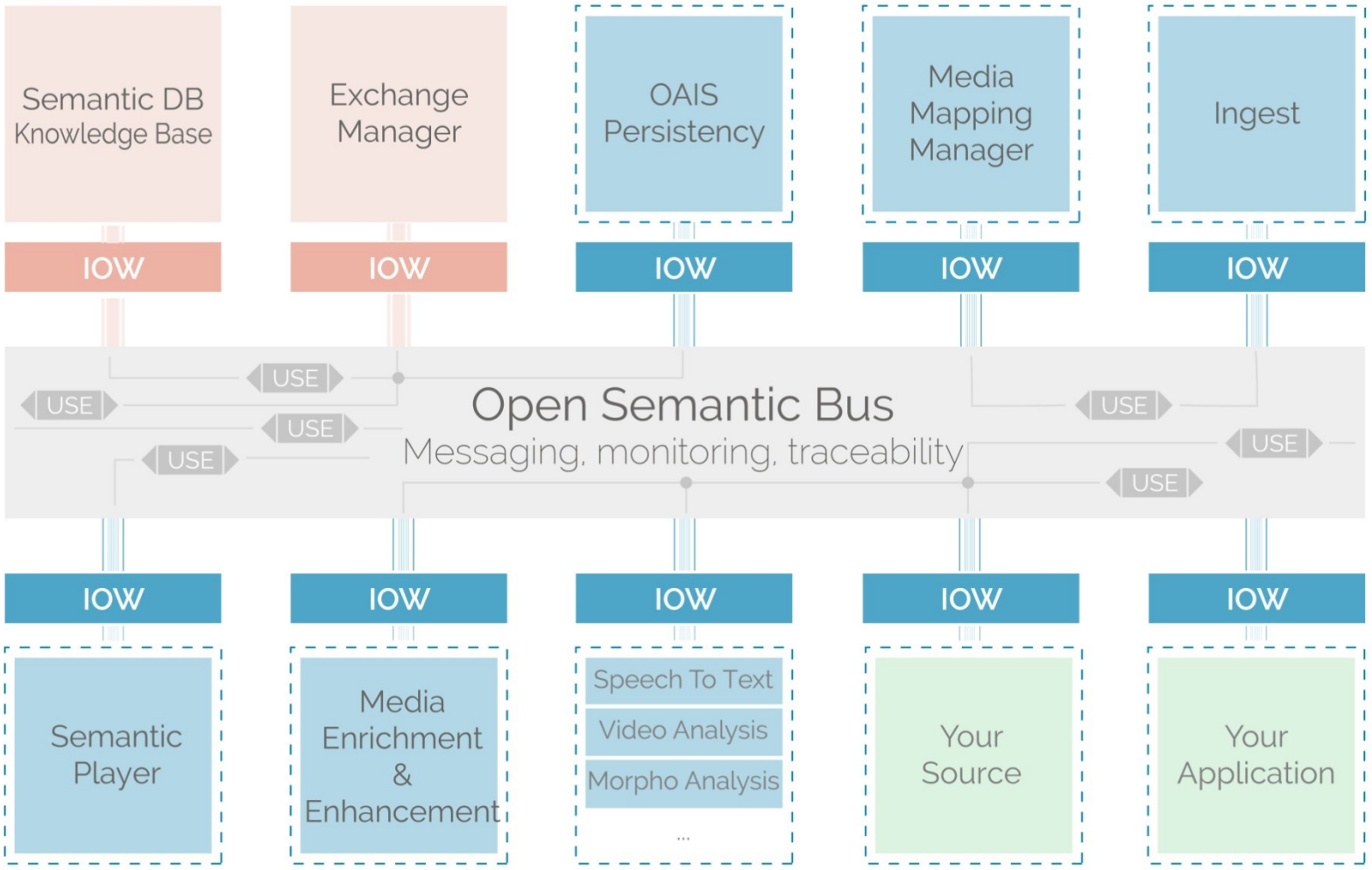


For real interoperability, we have to **NOT** consider the human interpretation during data transfer.

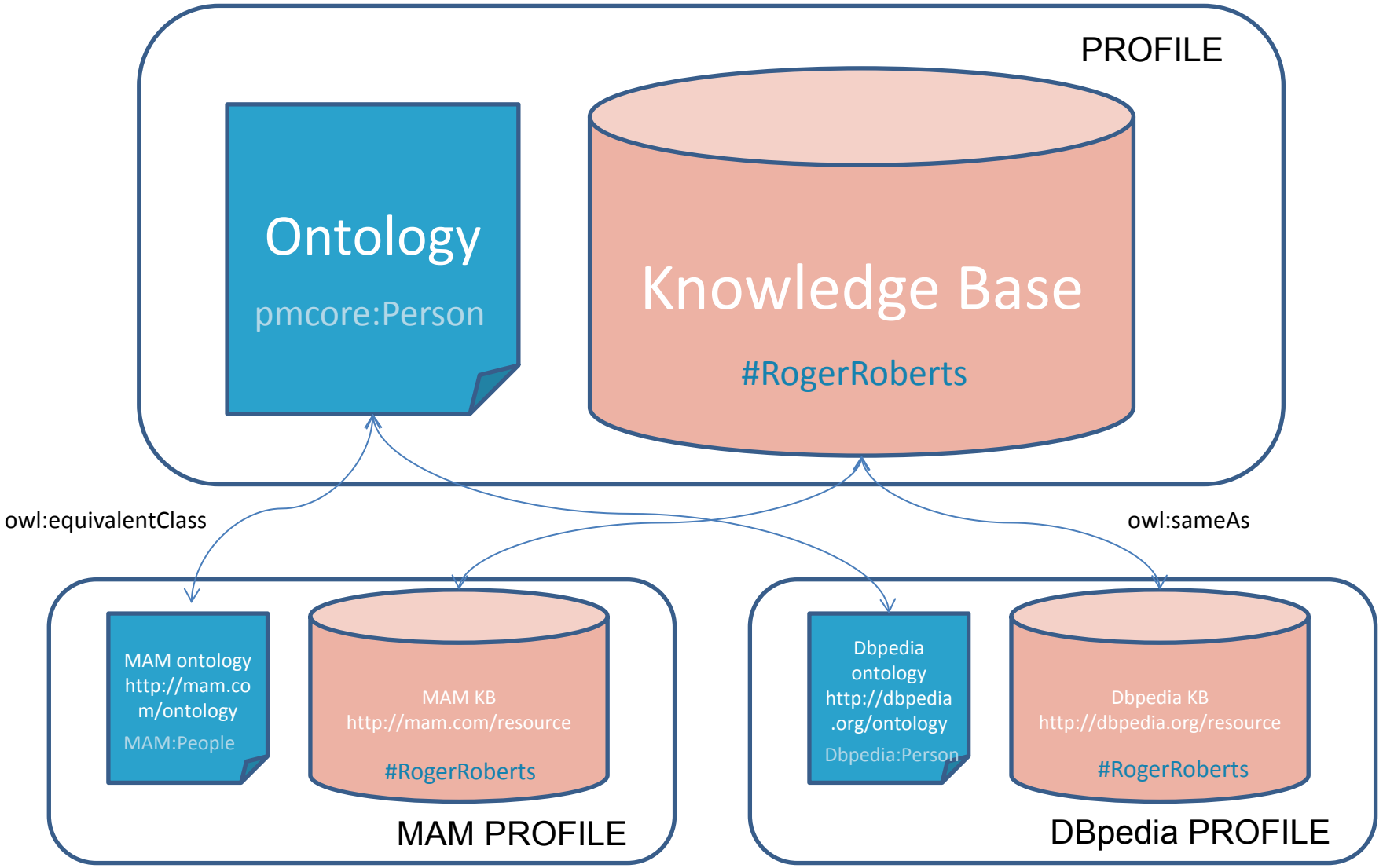
The **INFORMATION** must be understood directly by the **SERVICE**, thanks to ontology and inference rules interpretation.

This is **REASONING** : give the inputs to the machine making it able to reason.

The Semantic middleware services



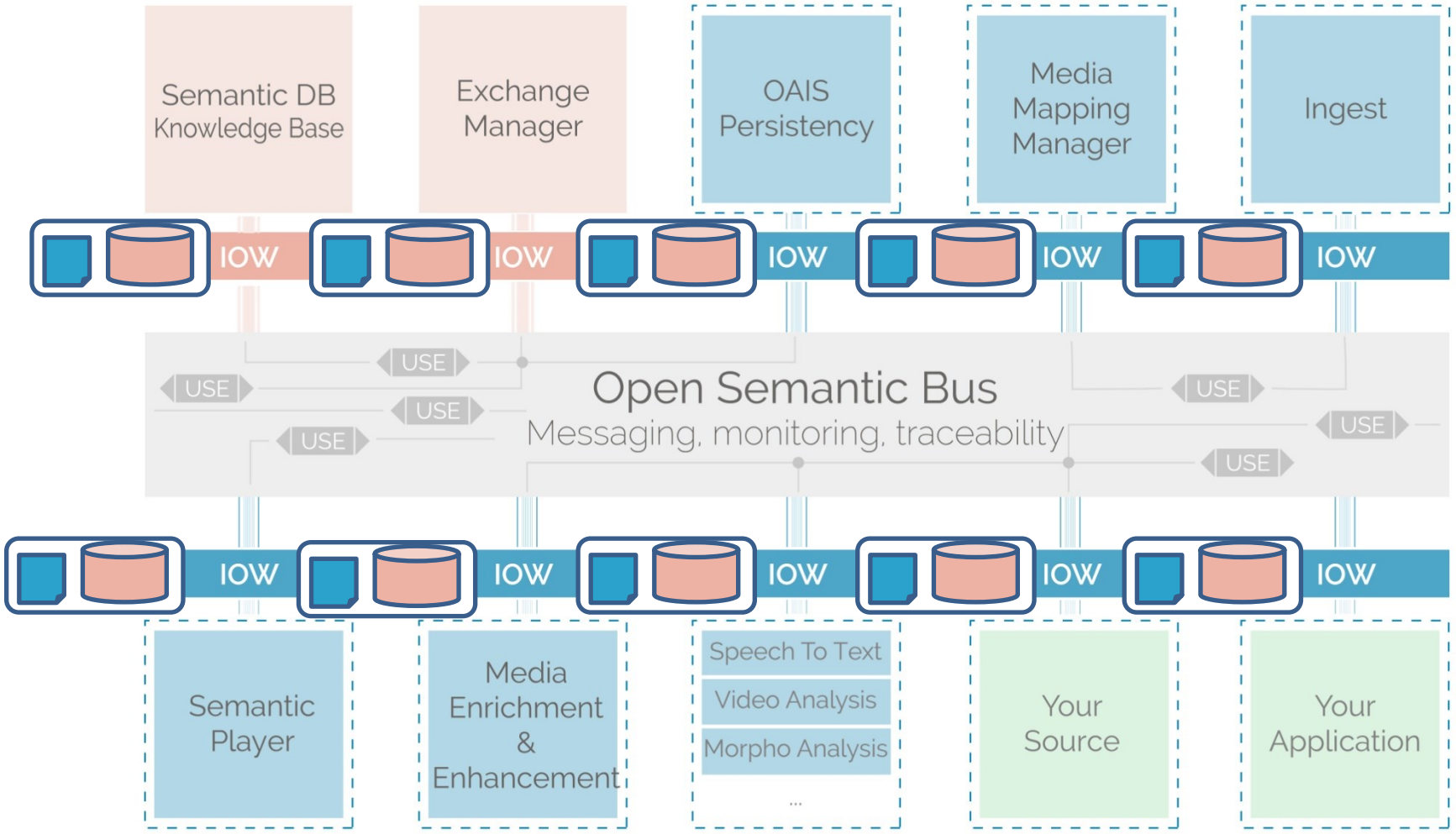
The Semantic profiles



We can modelize the Semantic profile of a MAM.

A Linked Open Data member is a Profile.

The Semantic profile : model the understandable information

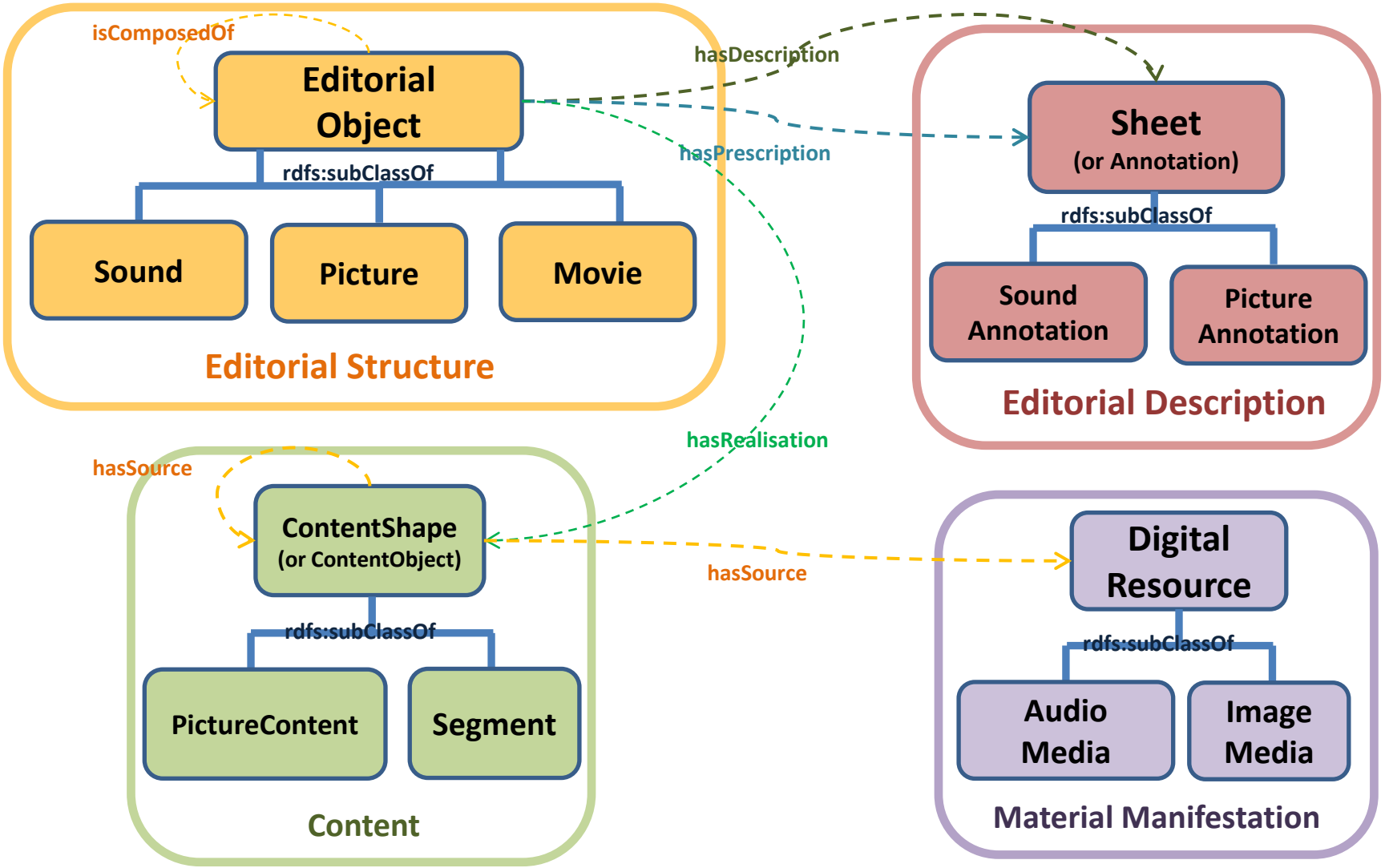


Each IOW uses an identified profile.

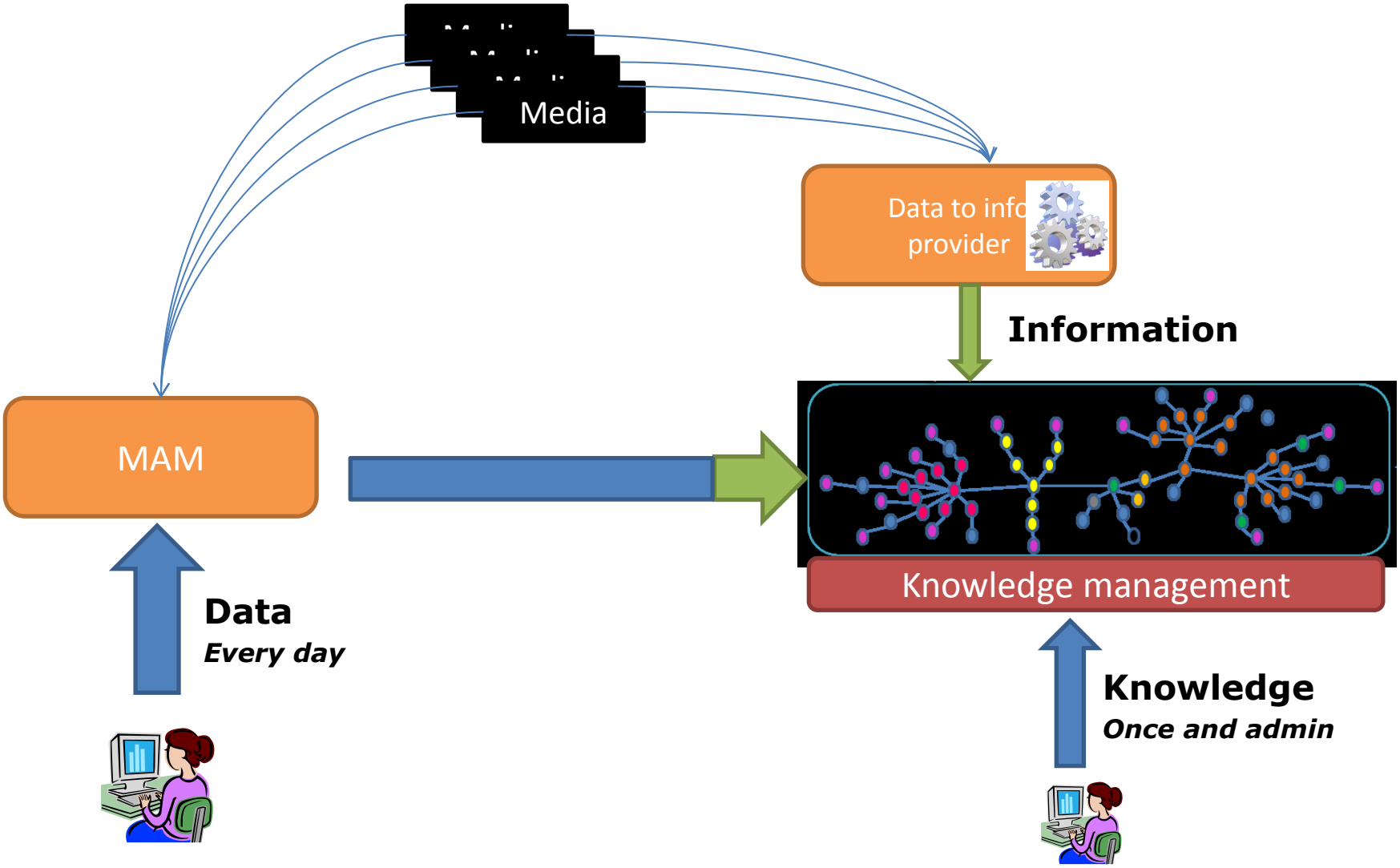
A scalable interoperable platform

HARDWARE & SOFTWARE INTEGRATION

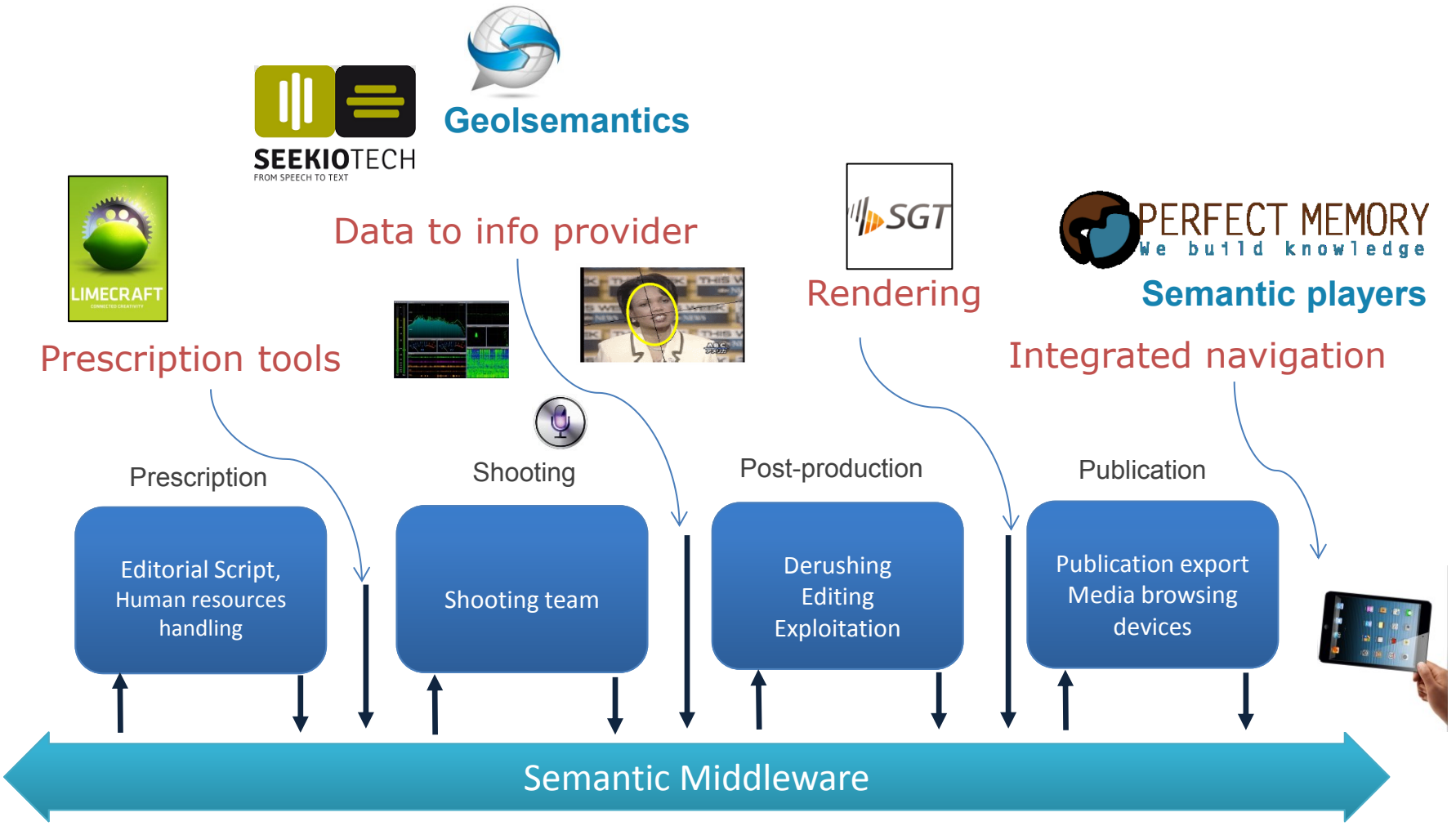
The Core profiles : EBUCore, PMCore, DublinCore…



The new media handling paradigm



The Semantic services



The Semantic Middleware : Exchange manager

Exchange Manager — Client: MediaMap Plus [liste]

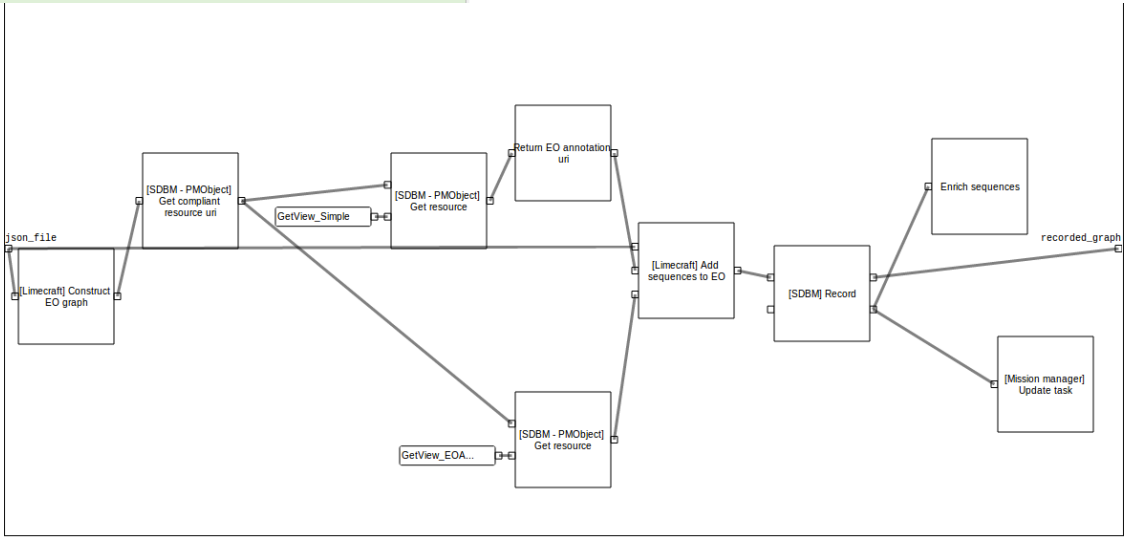
Items | Requêtes | Processus

Processus

Filtre: Tous les status — Rafraichissement: Aucun

Item	Type	Client	Date de création	Avancement	Message	Durée
[SDBM - Subject] Get Subject	Service	MediaMap Plus	13/08/2013, 19:12:23	100 %	Process stopped with code 200	00:00:01.00
[SDBM] Record	Service	MediaMap Plus	13/08/2013, 19:12:19	100 %	1613 statements recorded	00:00:02.00
[LOD Retrieval] Retrieve external resources	Service	MediaMap Plus	13/08/2013, 19:12:13	100 %	1613 statements retrieved	00:00:06.00
LOD retrieval	Chaine	MediaMap Plus	13/08/2013, 19:12:13	100 %	Process stopped with code 200	00:00:09.53
[SDBM] Record	Service	MediaMap Plus	13/08/2013, 19:12:13	100 %	1 statements recorded	-
Record	Chaine	MediaMap Plus	13/08/2013, 19:12:13	100 %	Process stopped with code 200	00:00:00.41
[SDBM] Record	Service	MediaMap Plus	13/08/2013, 19:12:13	100 %	4 statements recorded	-
Subject semantic recording	Chaine	MediaMap Plus	13/08/2013, 19:12:13	100 %	Process stopped with code 200	00:00:09.95
Subject recording	Chaine	MediaMap Plus	13/08/2013,			
[SDBM] Record	Service	MediaMap Plus	13/08/2013,			
[LOD Retrieval] Retrieve external resources	Service	MediaMap Plus	13/08/2013,			
LOD retrieval	Chaine	MediaMap Plus	13/08/2013,			
[SDBM] Record	Service	MediaMap Plus	13/08/2013,			
Record	Chaine	MediaMap Plus	13/08/2013,			
[SDBM] Record	Service	MediaMap Plus	13/08/2013,			

Semantic management of **services** and **processes** available on the middleware.

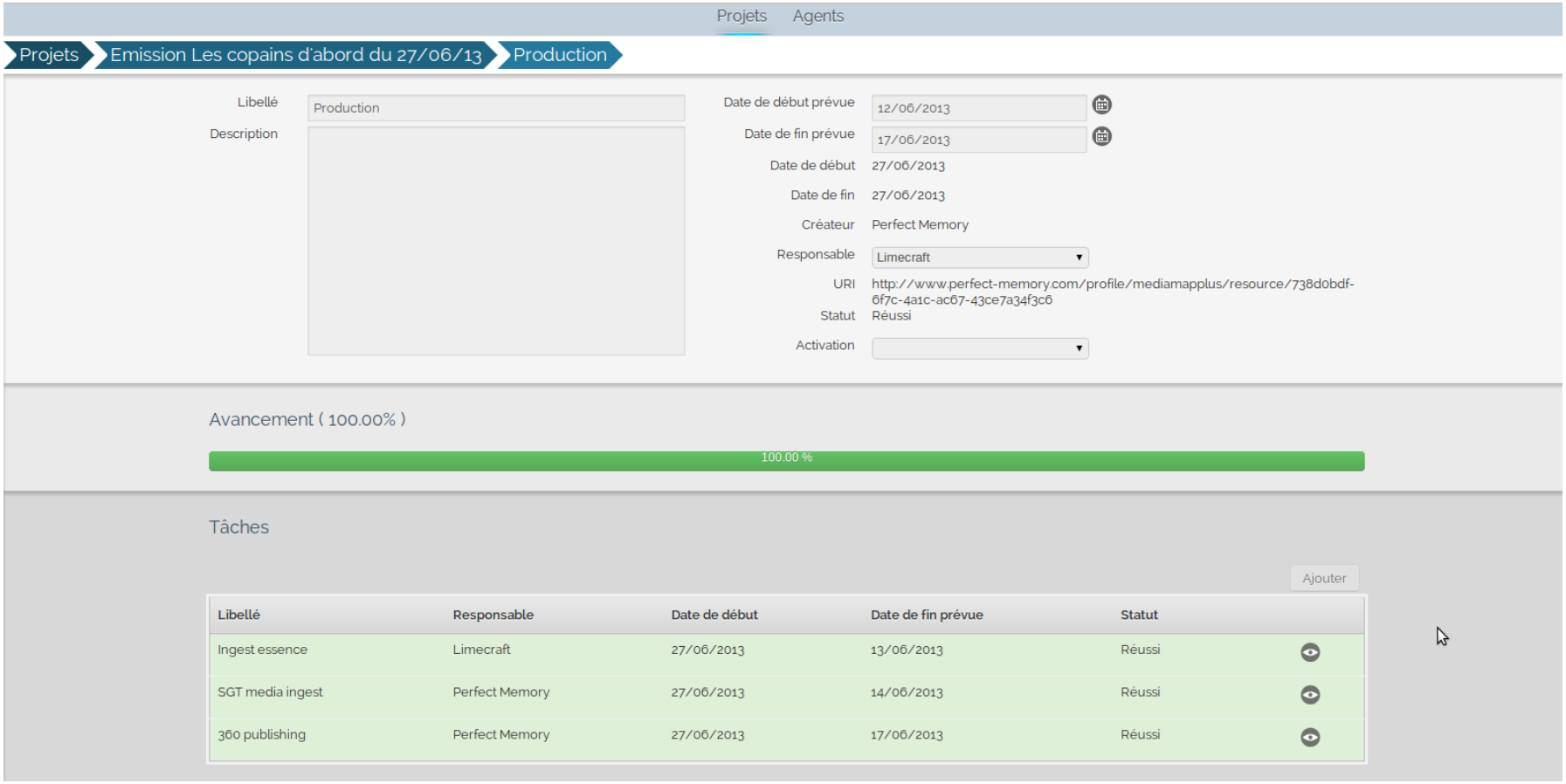


Dépendances

+ dépendance

[Limecraft] Add sequences to EO	→	[SDBM] Record
[Limecraft] Construct EO graph	→	[SDBM - PMObject] Get compliant resource uri
[SDBM - PMObject] Get compliant resource uri	→	[SDBM - PMObject] Get resource
[SDBM - PMObject] Get resource	→	Return EO annotation uri
Return EO annotation uri	→	[Limecraft] Add sequences to EO

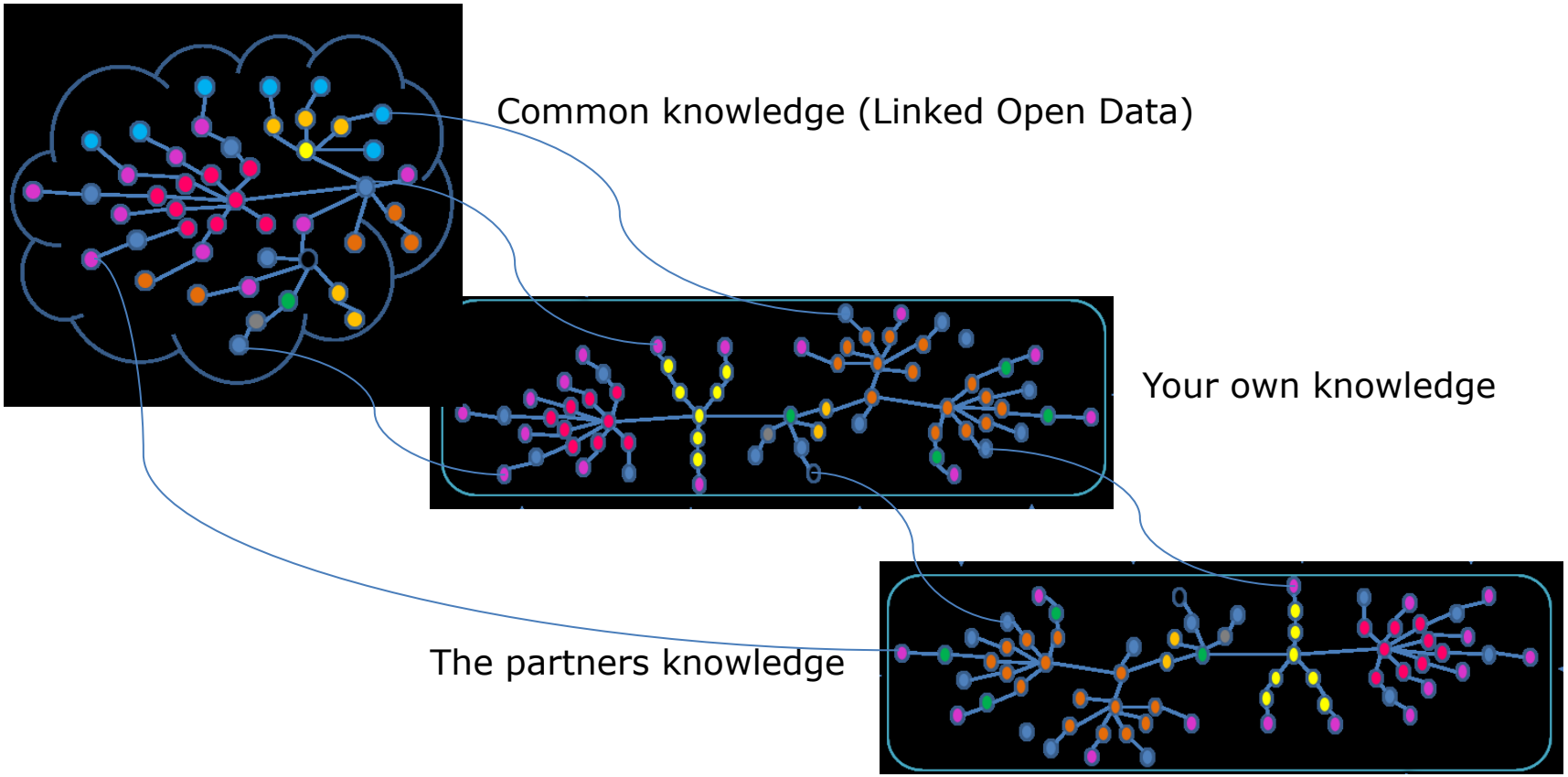
MediaMap+ use case : Mission Manager



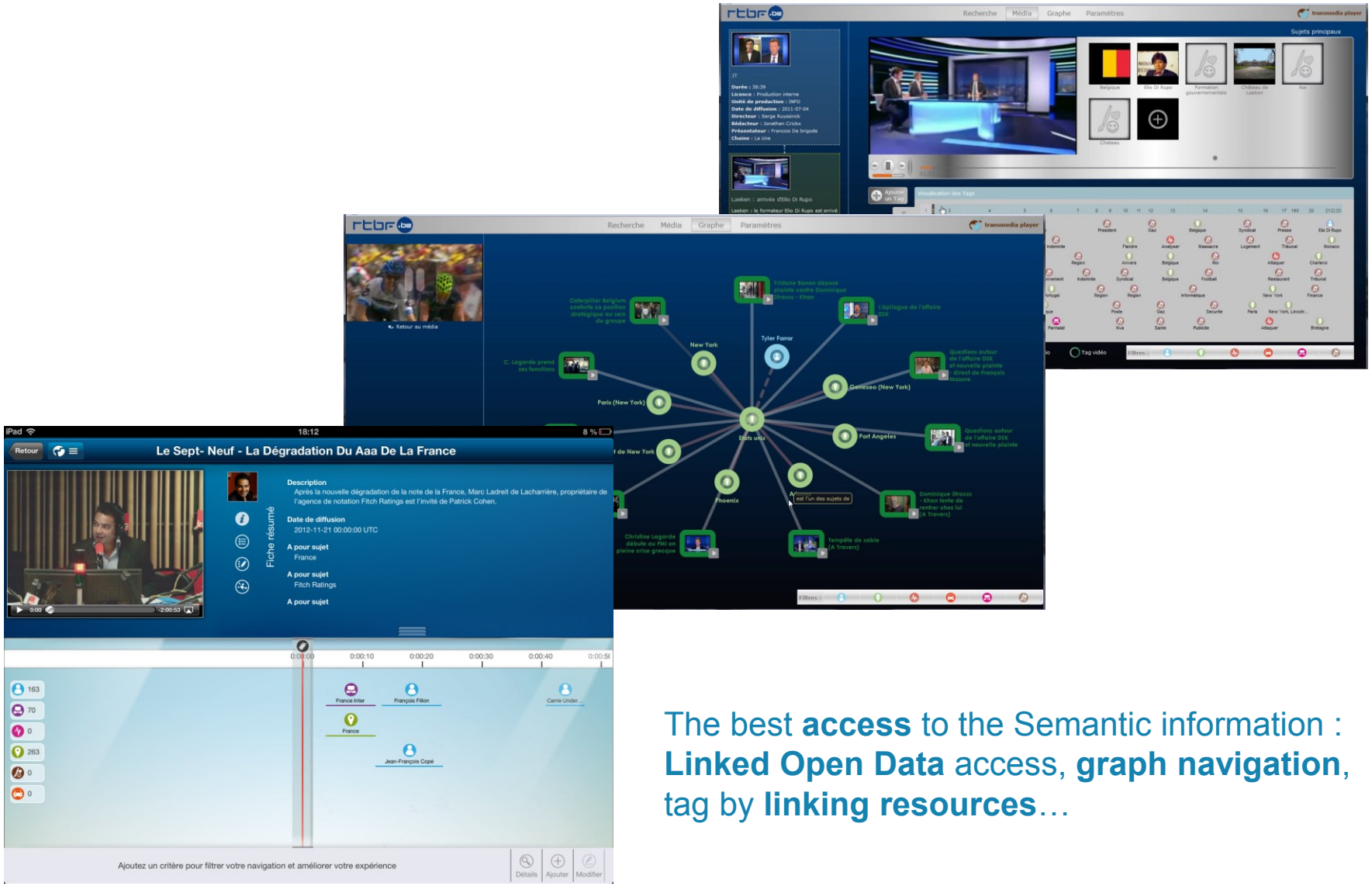
A **tool** connected to the Semantic Middleware through IOW**, meant to handle the Audiovisual production missions.**

Linked Open Media : the logical view

3 connected spaces



The Semantic players



The best **access** to the Semantic information : **Linked Open Data** access, **graph navigation**, tag by **linking resources**…

THE SEMANTIC MIDDLEWARE IS HERE

HALL 8 BOOTH D82

PERFECT MEMORY

Linked Media – Open Data

PERFECT MEMORY

Linked Media – Open Data

Contacts: **Guillaume RACHEZ**
Audiovisual semantic engineer
guillaume.rachez@perfect-memory.com

Web : http://www.perfect-memory.com
http://blog.perfect-memory.com
@perfect__memory

Address: 33bis Boulevard Berthelot
63400 Chamalières
FRANCE