



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

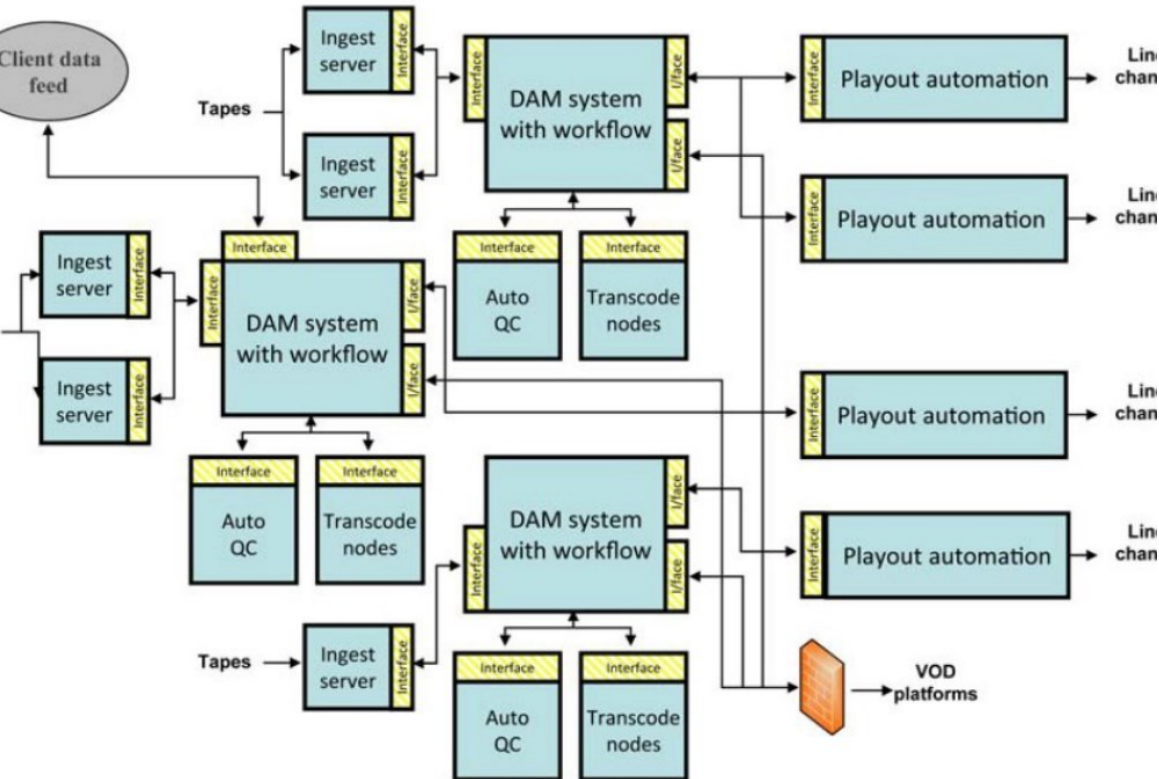


The data translation

WHY A MIDDLEWARE ?



Why a Middleware ?



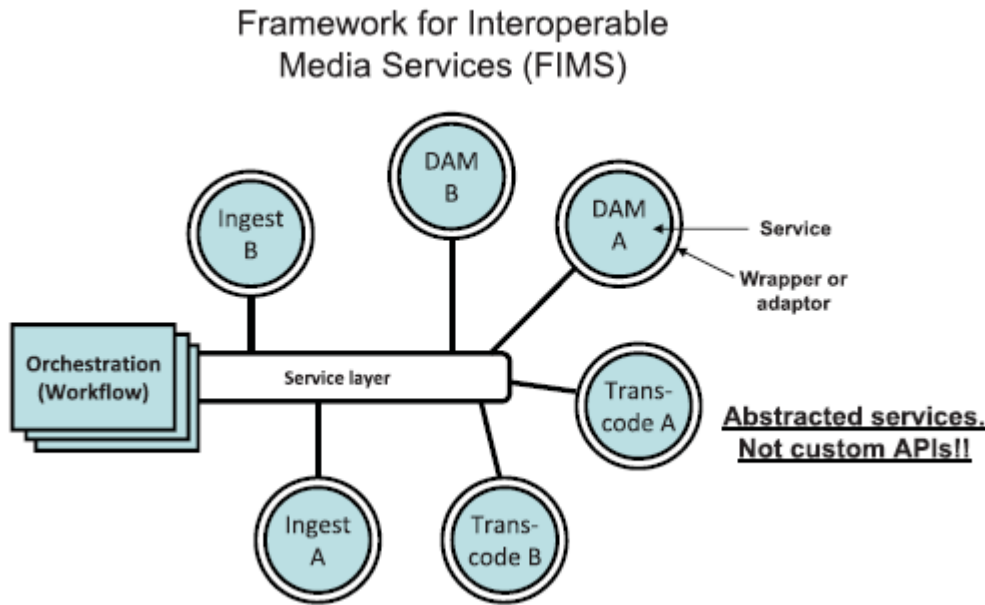
Current MAM communicates **between them, and only them.**

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 ?

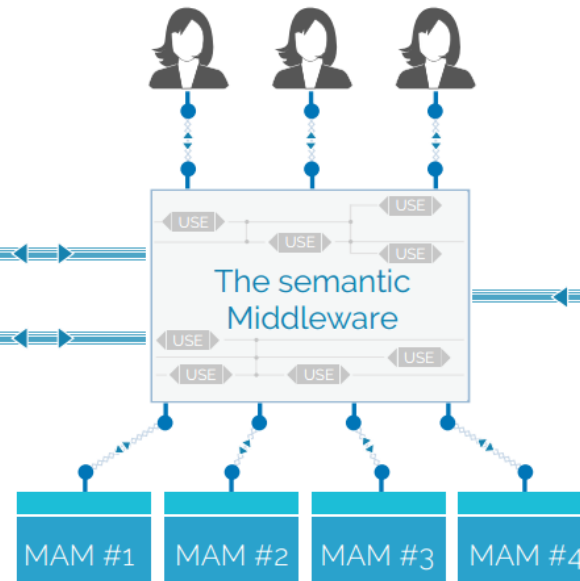
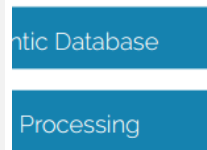
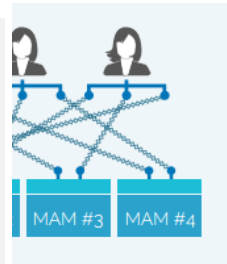
Because the semantic standards are natively interoperable.

Really ?

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

Why this standard and not an other one ?

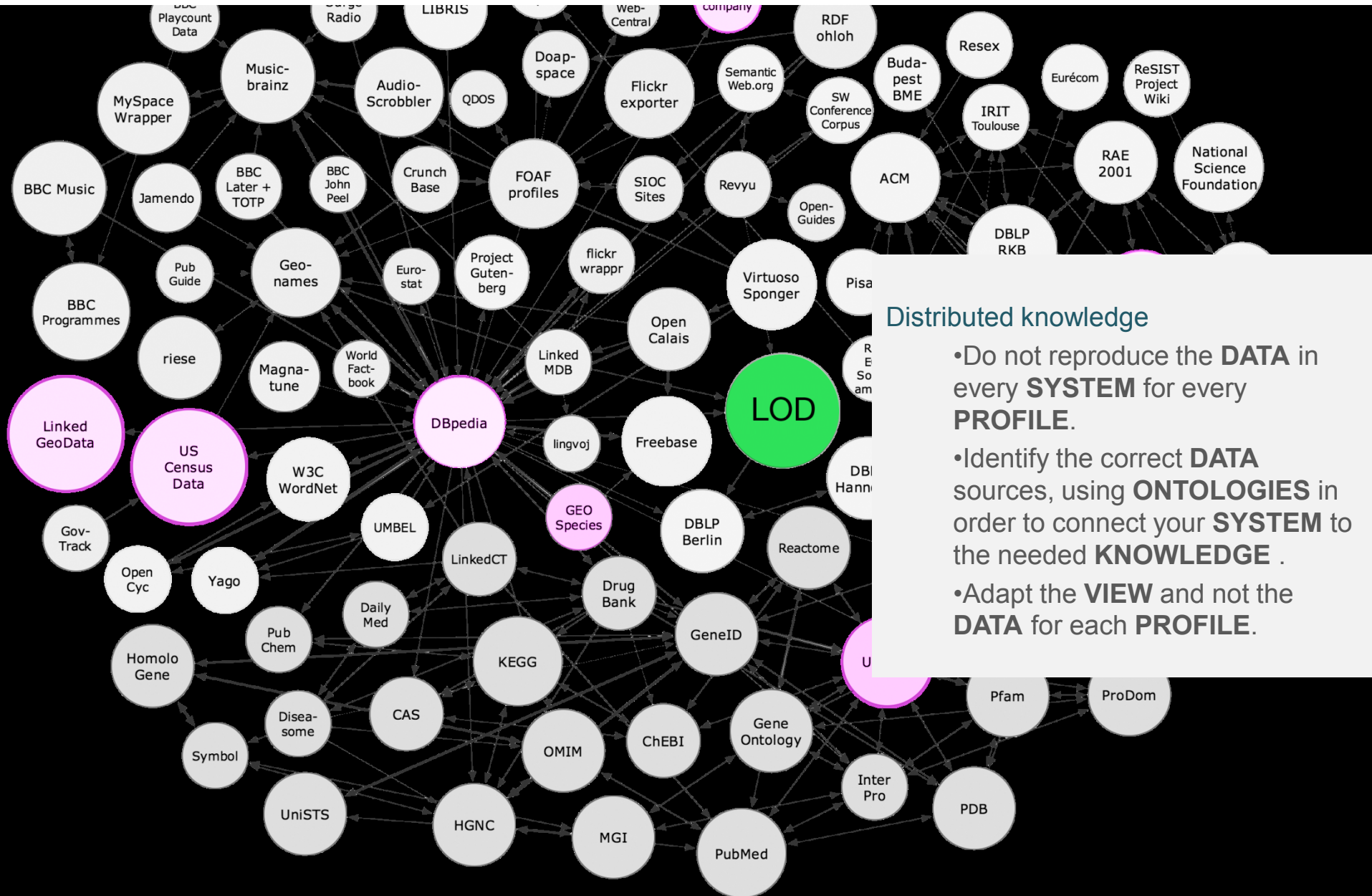
Because it has already started !



External Knowledge LOD



Linked Open Data

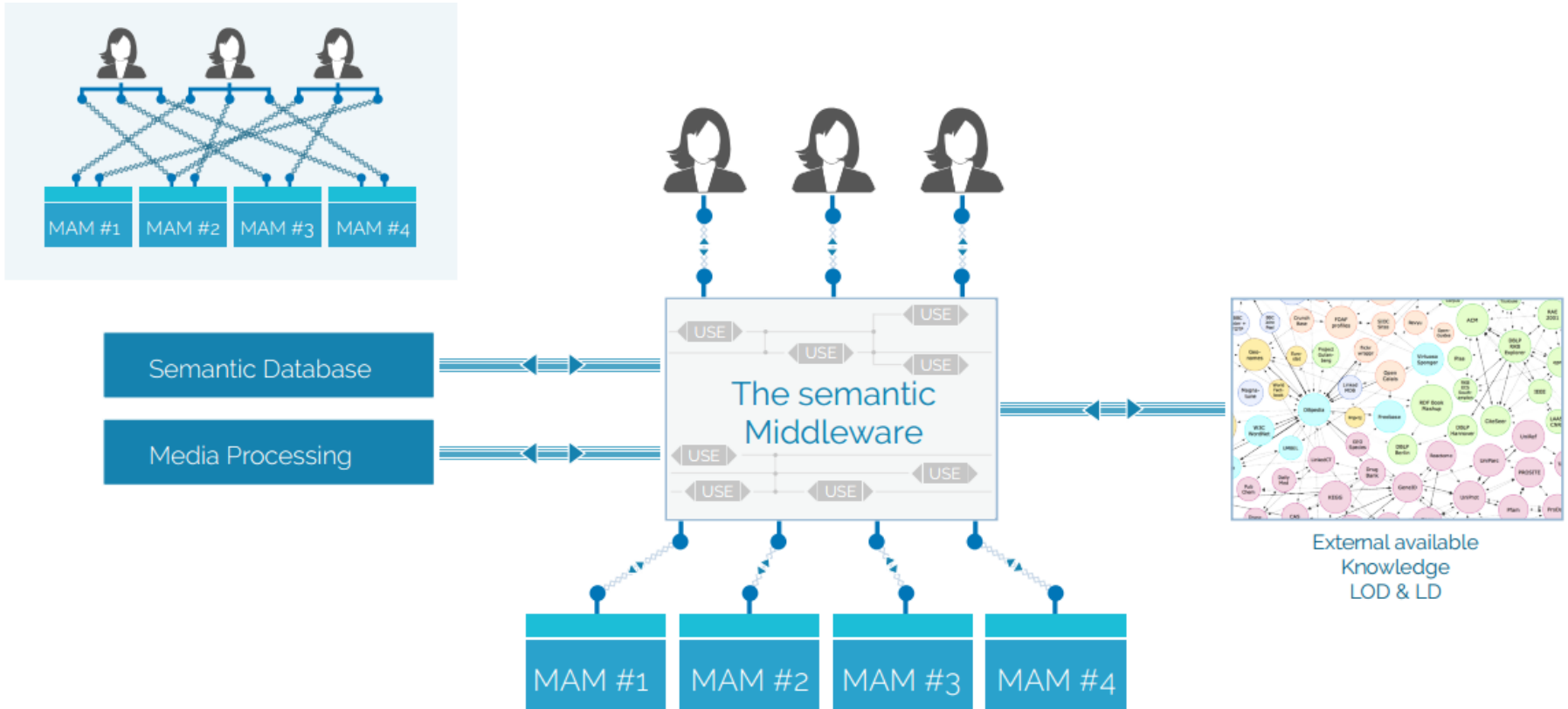


Distributed knowledge

- 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



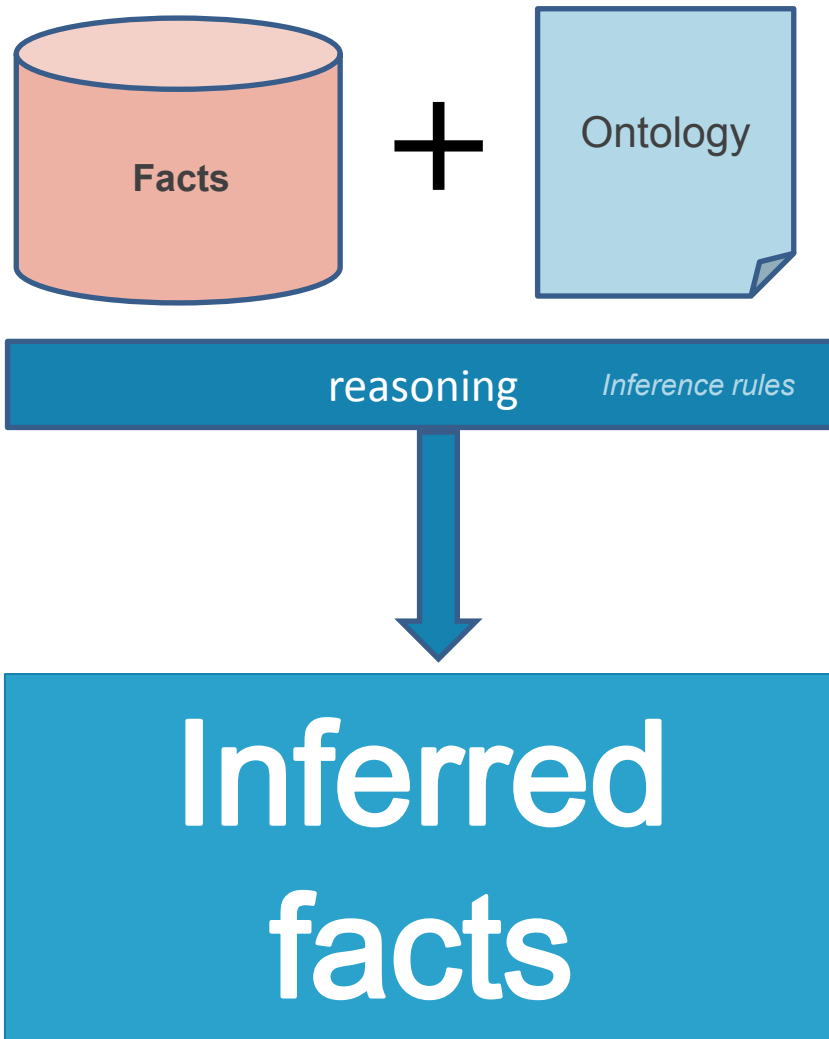
Use the semantic standards for Semantic modeling of the data.
Make the middleware language
standard, scalable, respectful to the conditions for Semantic Web connections.
Give the keys for native interoperability by using reasoning on connectors.

The information handling

WHAT IS THE SEMANTIC REASONING ?



What is the semantic reasoning ?



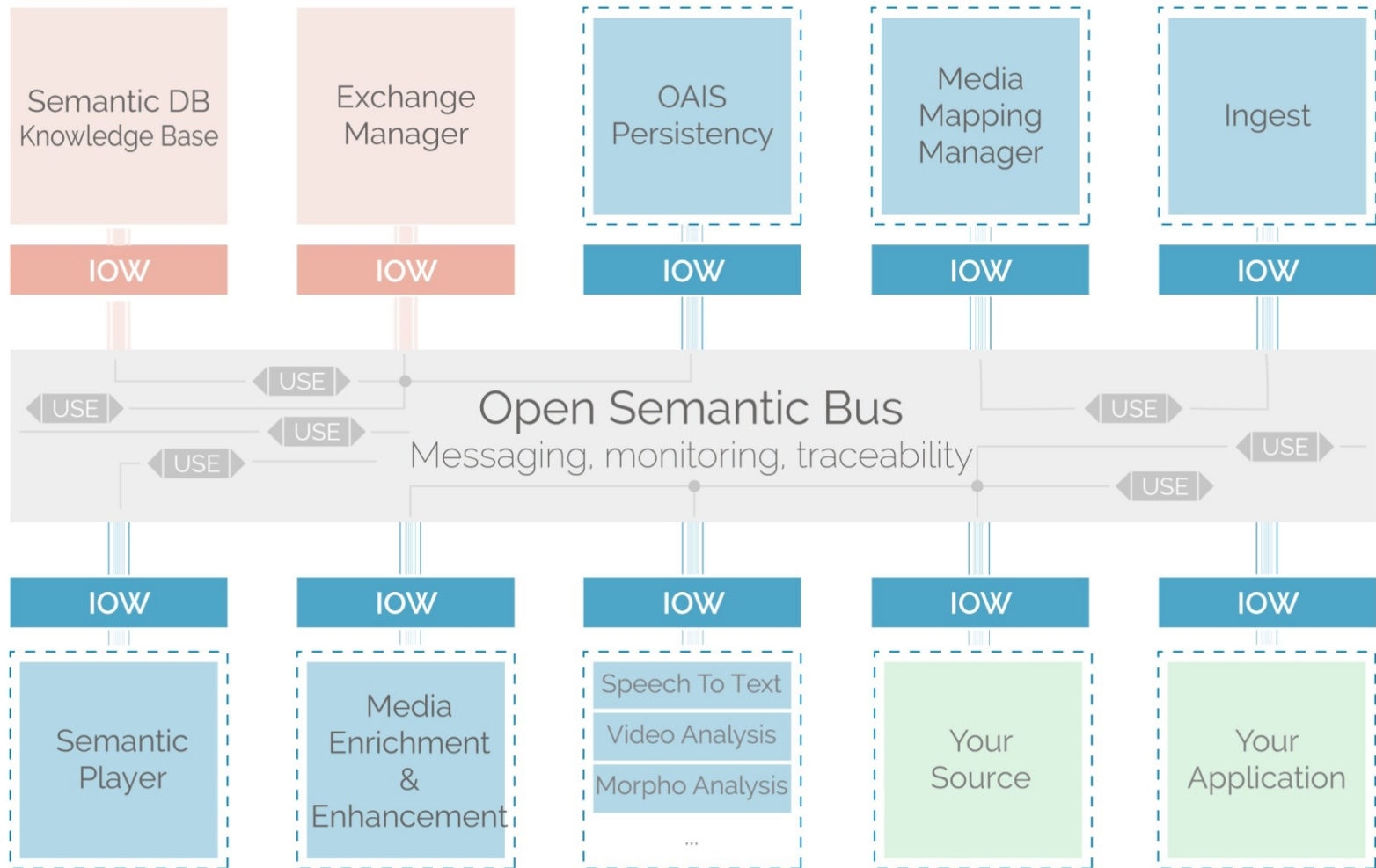
For real interoperability, we have to **NOT** consider the human interpretation during data transfer.

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.

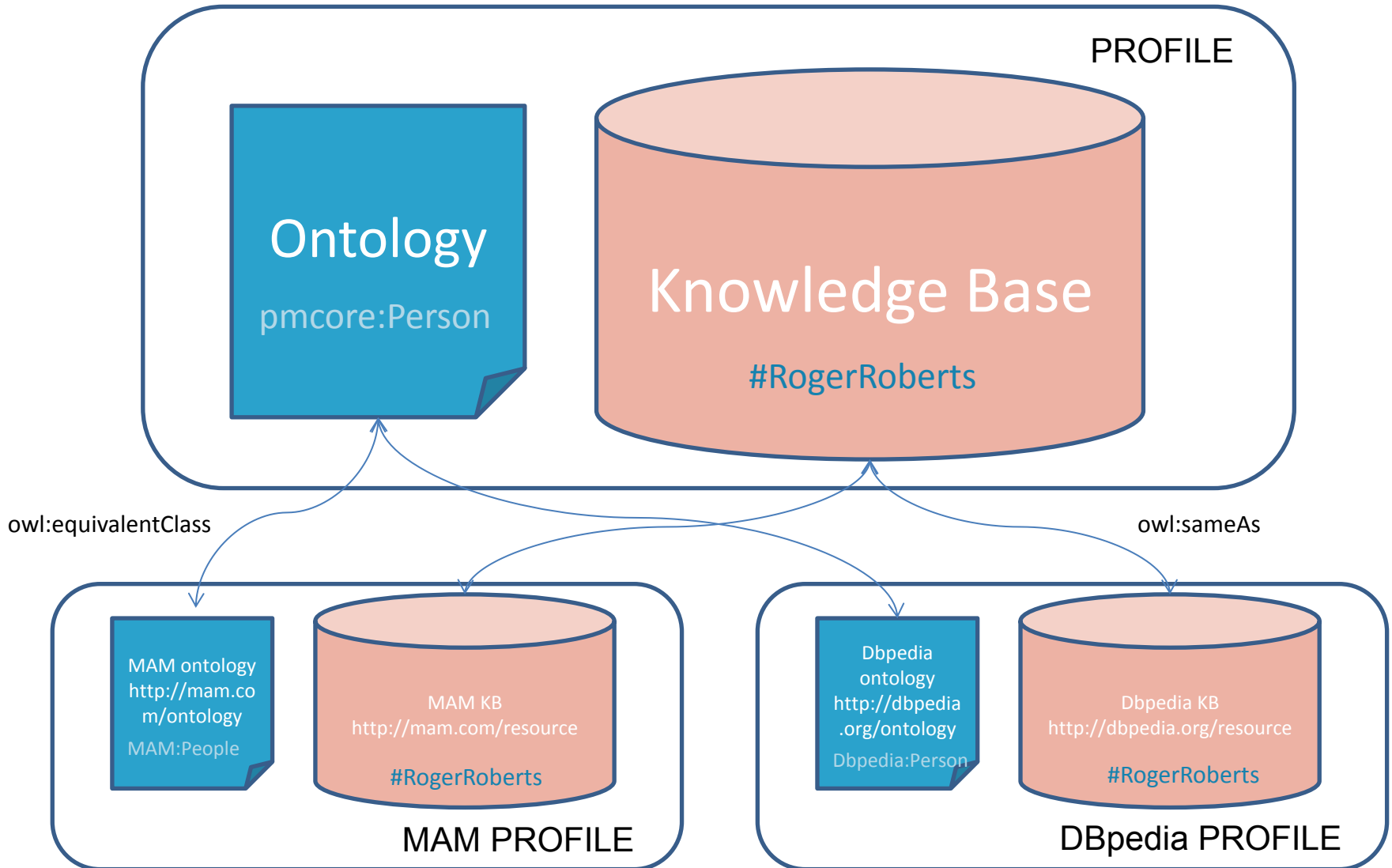


The Semantic middleware services





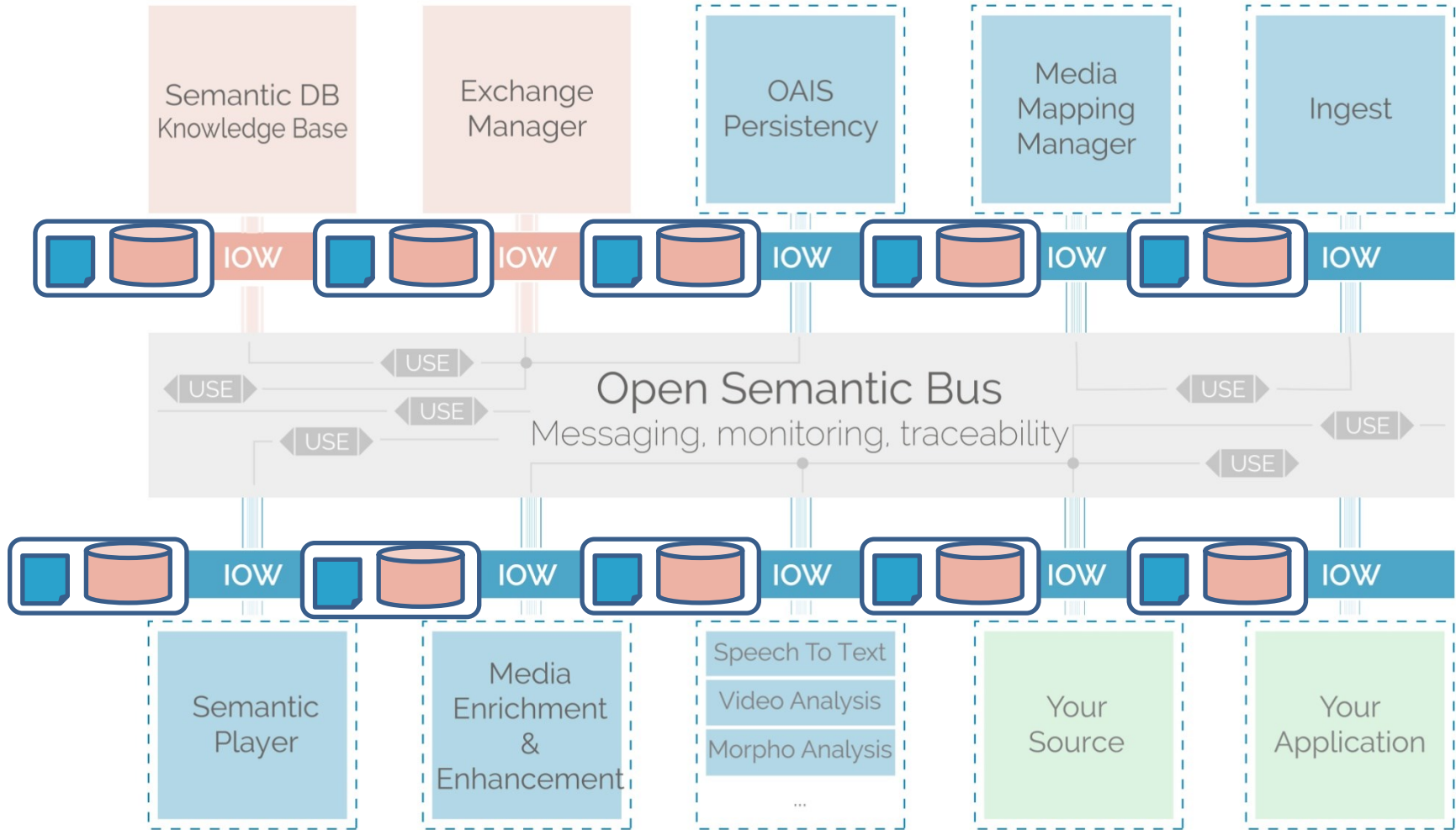
The Semantic profiles



We can modelize the Semantic profile of a MAM.

A Linked Open Data member is a Profile.

The Semantic profile : model the understandable information



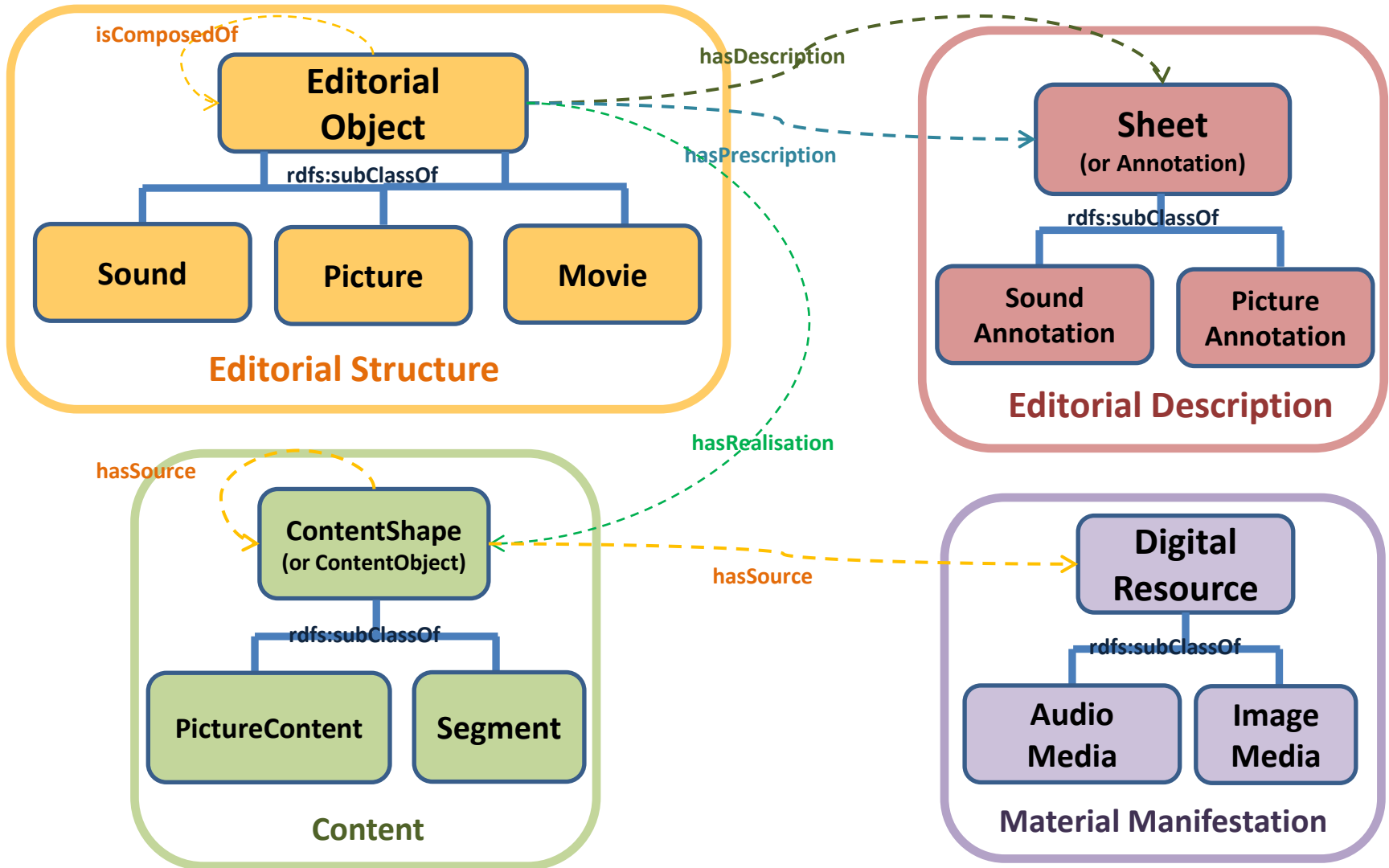
Each IOW uses an identified profile.

A scalable interoperable platform

HARDWARE & SOFTWARE INTEGRATION

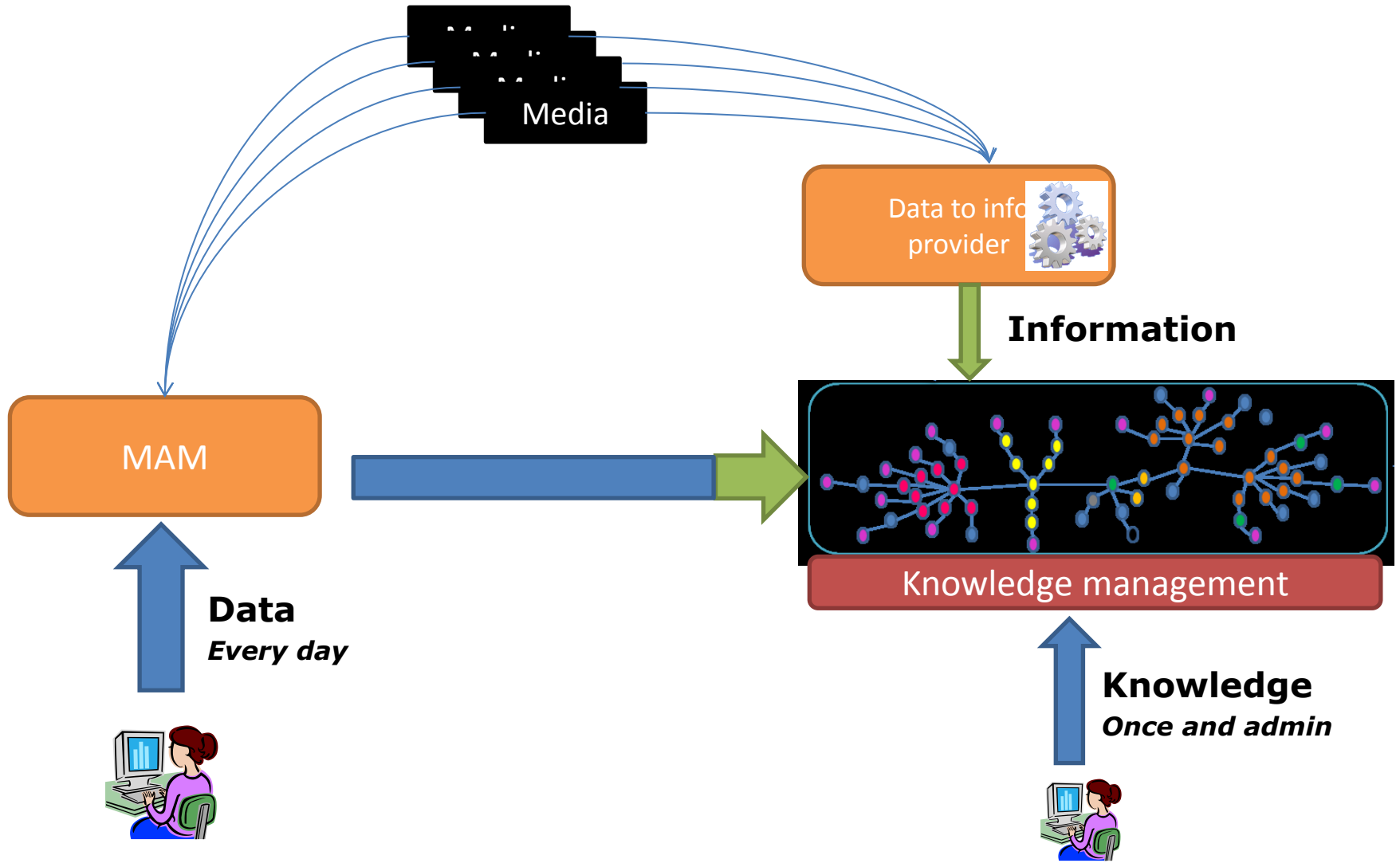


The Core profiles : EBUCore, PMCore, DublinCore...



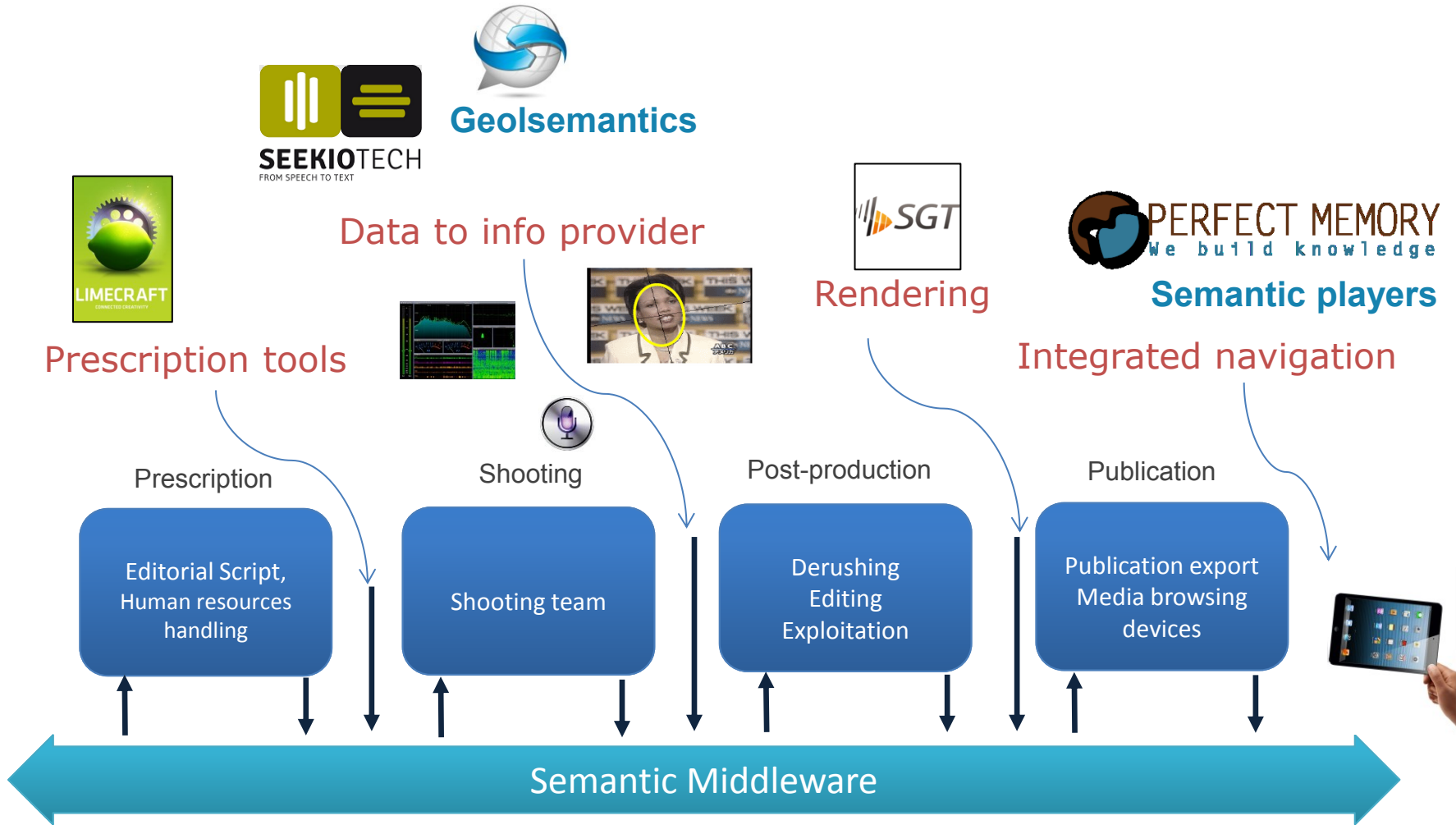


The new media handling paradigm





The Semantic services





The Semantic Middleware : Exchange manager

Exchange Manager

Client MediaMap Plus [liste]

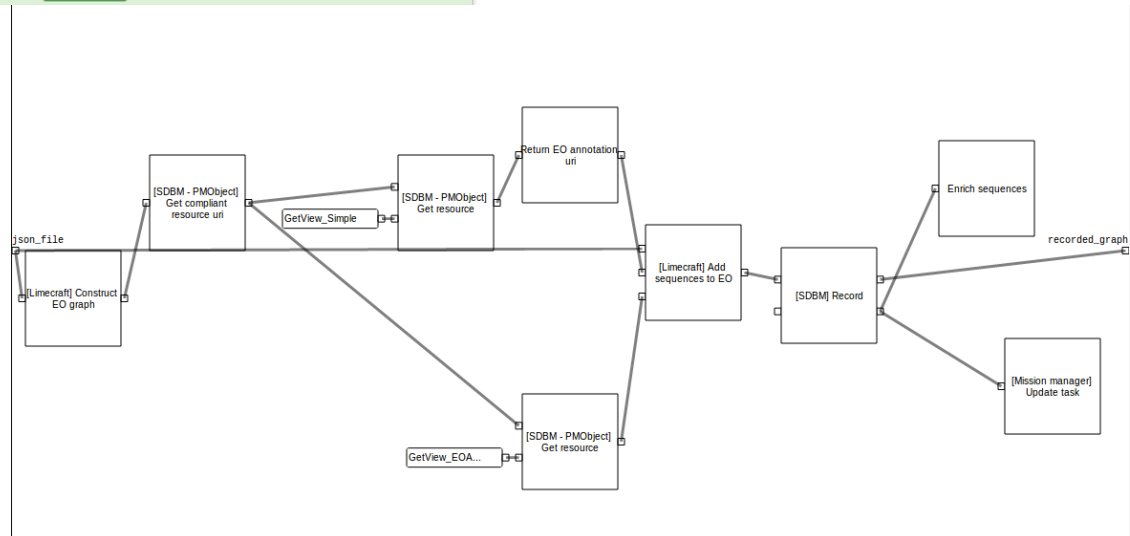
Items Requetes Processus

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, 19:12:13	100 %	Process stopped with code 200	00:00:09.95
[SDBM] Record	Service	MediaMap Plus	13/08/2013, 19:12:13	100 %	Process stopped with code 200	00:00:09.95
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[SDBM] Record	Service	MediaMap Plus	13/08/2013, 19:12:13	100 %	Process stopped with code 200	00:00:09.95

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

Projets Agents

Projets > Emission Les copains d'abord du 27/06/13 > Production

Libellé: Production
Description:

Date de début prévue: 12/06/2013
Date de fin prévue: 17/06/2013
Date de début: 27/06/2013
Date de fin: 27/06/2013
Créateur: Perfect Memory
Responsable: Limecraft
URI: http://www.perfect-memory.com/profile/mediamapplus/resource/738dobdf-0f7c-4a1c-ac07-43ce7a34f3c0
Statut: Réussi
Activation:

Avancement (100.00%)

100.00 %

Tâches

Ajouter

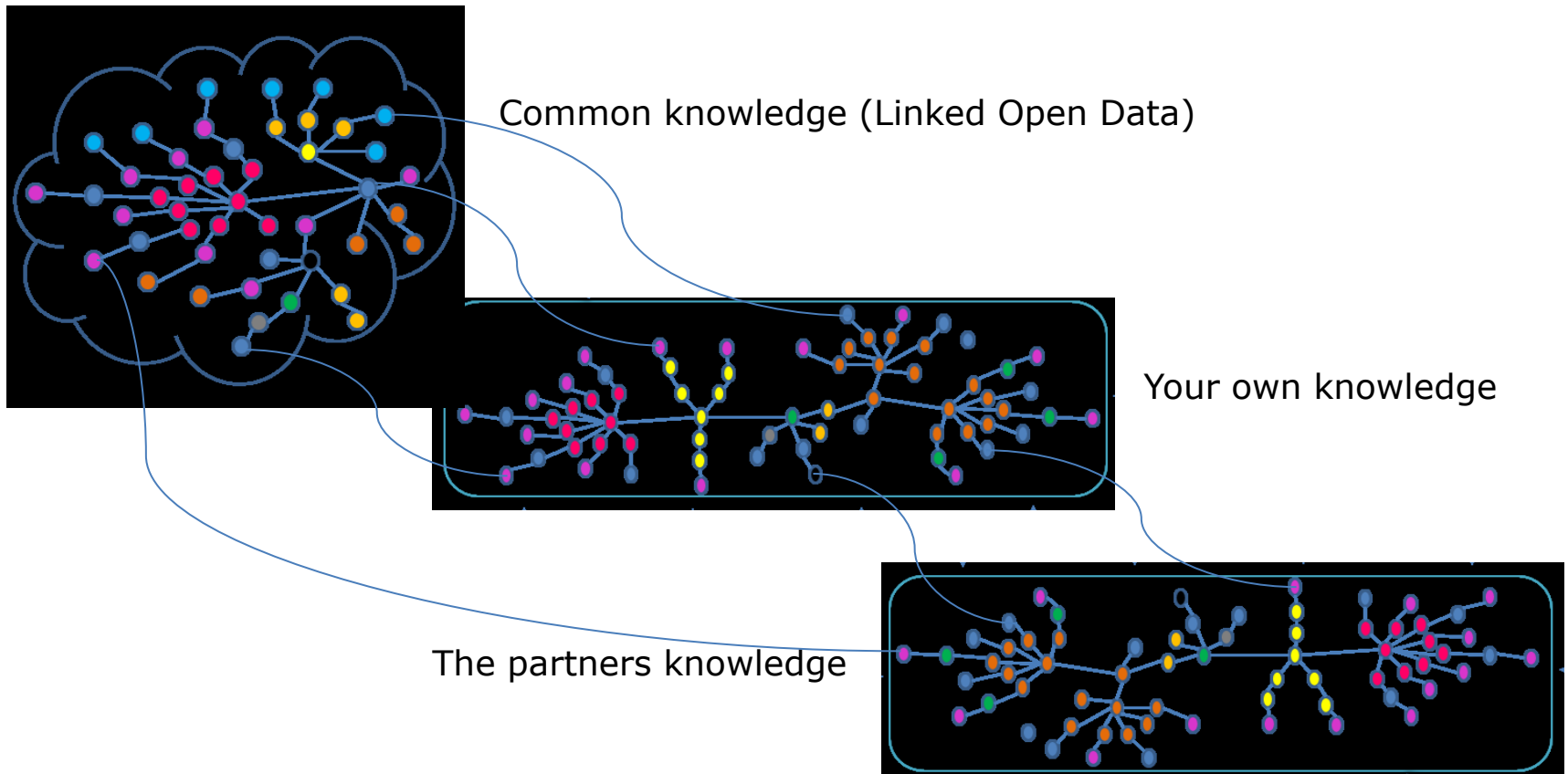
Libellé	Responsable	Date de début	Date de fin prévue	Statut	
Ingest essence	Limecraft	27/06/2013	13/06/2013	Réussi	👁
SGT media ingest	Perfect Memory	27/06/2013	14/06/2013	Réussi	👁
360 publishing	Perfect Memory	27/06/2013	17/06/2013	Réussi	👁

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 image displays three overlapping screenshots of the 'transmedia player' interface, illustrating semantic information access and graph navigation.

Top Screenshot: Shows a news studio scene. The interface includes a search bar, navigation tabs (Recherche, Média, Graphe, Paramètres), and a sidebar with 'Sujets principaux' (Main subjects) such as 'Belgique', 'Dix et Lix', 'Formation gouvernementale', 'Lackan', and 'Eto'. A 'Nouveau des Tags' (New tags) section is also visible.

Middle Screenshot: Displays a semantic graph with a central node 'Eto' and several peripheral nodes connected by lines. The nodes include 'New York', 'Paris (New York)', 'Phoenix', 'Port Angeles', 'Genève (New York)', 'Tyrer Farnor', 'Questions autour de l'affaire O2', 'Questions autour de l'affaire O2 et nouvelles plaintes après de nouveaux scandales', 'Questions autour de l'affaire O2', 'Dominique Strauss-Kahn (un des sujets de l'affaire)', 'Tempête de sable (A travers)', 'Christine Lagarde débute au FMI en pleine crise grecque', 'C. Lagarde prend ses fonctions', and 'Caterpillar dégage une forte croissance au 3e trimestre'. The graph is set against a dark blue background.

Bottom Screenshot: Shows a video player for the title 'Le Sept- Neuf - La Dégradation Du Aaa De La France'. The video player includes a progress bar and a sidebar with social media sharing options (Facebook, Twitter, YouTube, etc.). The sidebar also displays the number of shares for each platform: Facebook (163), Twitter (70), YouTube (0), Dailymotion (263), and others (0). The video player interface includes a search bar and navigation tabs (Recherche, Média, Graphe, Paramètres).

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



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2013

Innovation
Awards

Nominee





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