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Case Study: Terminology Services as eHealth Enablers

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Who are we?

- **Phast**
  - Association of French Healthcare Professionals now including IT administrators, vendors, government.
  - Based in Paris, mandated by French Ministry to set basis for unambiguous exchange of information in healthcare facilities concerning medication, extended later to medical devices.
  - National interoperability implementation guides, one of which is *CIOsp (Codification Interopérable des Spécialités Pharmaceutiques) or Interoperable Medication Coding*
- **Mayo**

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Case Study: CIOsp - Interoperable Medication Coding

- Aiming to improve interoperability between different systems and applications involved in ***Electronic Medication Management***.
- Medication is a complex object, with many properties.
- CIOsp provides a means to interchange medication information via coded attributes with values based on a multitude of terminologies published by many sources of truth. (all medication regulated in France -10655 as of 22/03/2103).

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CIOsp data

Core Data

Building Blocks
UCD (national Id), brand name, former Id, pharmaceutical form, route, ATC, quantity, composition, usage units, packaging, CIP (presentation code), Liste

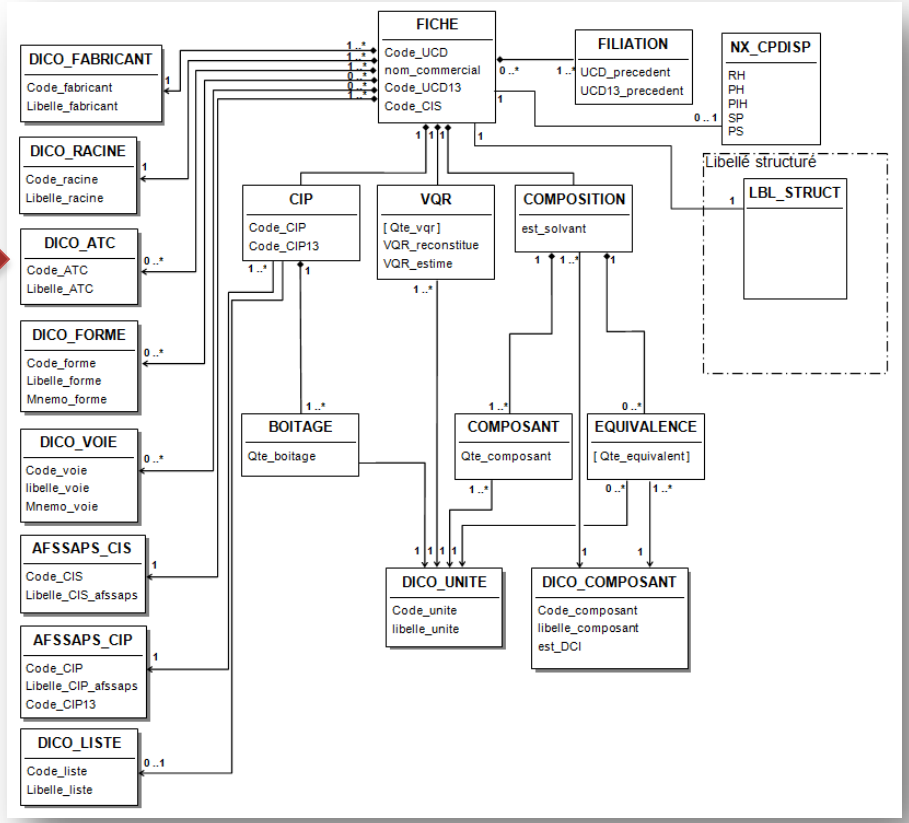
Additional Components

Hors GHS (outside hosp episo

Hospital Pharm

Alerts

Etc …



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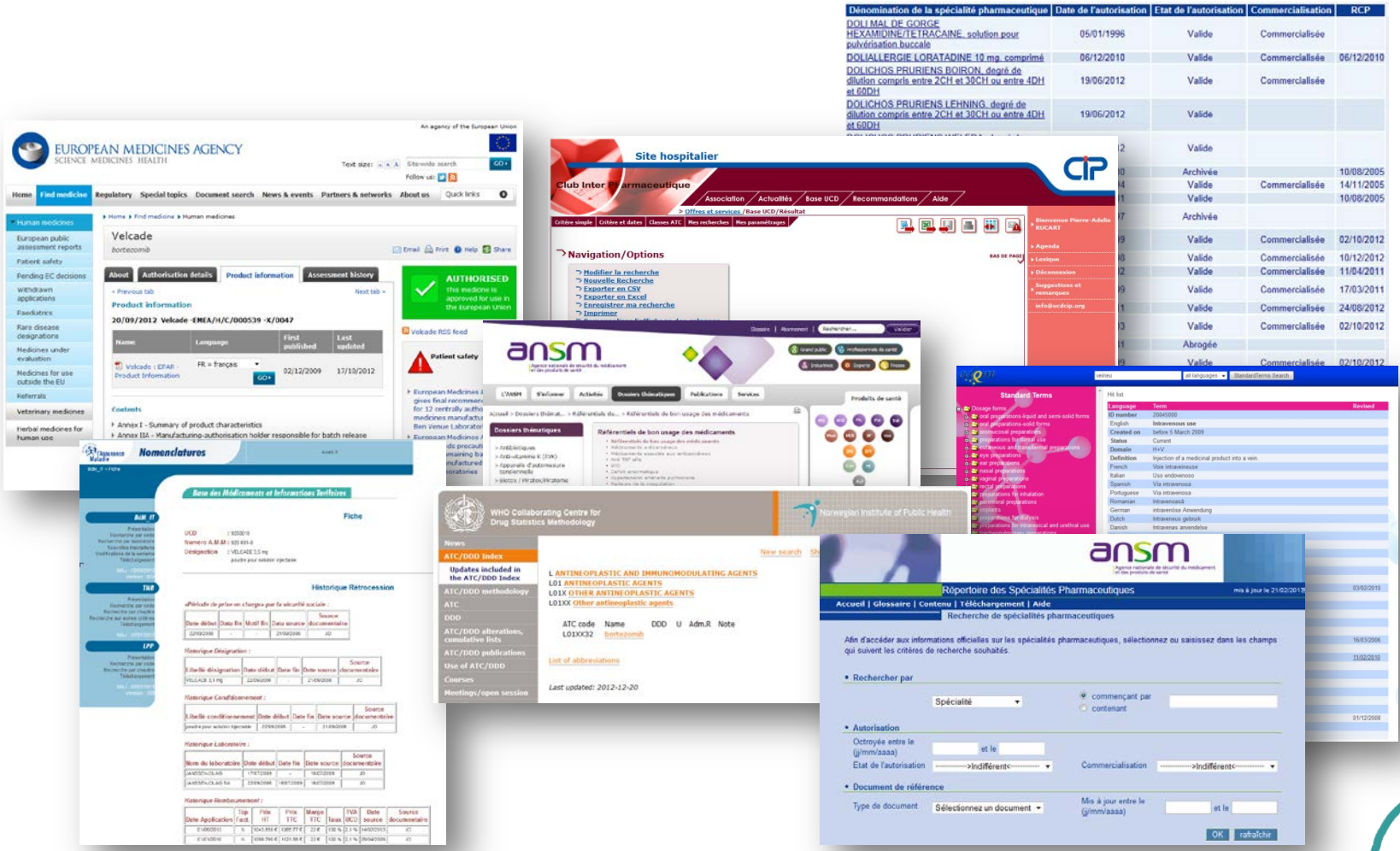
ClOsp Terminologies



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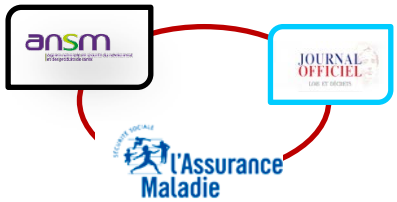
CIOsp provides



Fiche CIO

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Code UCD : 9260010
Code UCD13 : 3400892600109

Libellé : VELCADE 3.5 mg, pdr pr sol inj

Code UCD précédent(s) : Néant

Code UCD suivant(s) : Néant

Code CIS : 62438913

Fabricant : JANSSEN CILAG

Composants : * BORTEZOMIB *DCI*
- 3,5 milligramme

Formes : Poudre pour solution injectable

Voies d'administration (DDJ) : Voie intraveineuse
Voie sous-cutanée

Volume / Quantité référence : 1 flacon
1 flacon (RECONSTITUE)

ATC : L : ANTINEOPLASIQUES ET IMMUNOM
L01 : ANTINEOPLASIQUES
L01X : AUTRES ANTINEOPLASIQUES
L01XX : AUTRES ANTINEOPLASIQUES
L01XX32 : BORTEZOMIB

Conditionnement : Code CIP : 5649573 > *LISTE 1*
Code CIP13 : 3400956495733
Libellé CIP AFSSAPS : 1 flacon(s) en verre de 38,5 mg
- 1 flacon

Mise à jour : 22/11/2012

Retrait de lot

Velcade 1 mg, poudre pour solution injectable et VELCADE 3,5 mg, poudre pour solution injectable - Janssen-Cilag - Retrait de l

Réf. : MED11B41 Date : 25/11/2011 Mise à jour : -

N° Lot / Sous-lot	Date de péremption
De **9AZSY00** jusqu'à **9AZSY01**	31/12/2011
De **9DZSB00** jusqu'à **9DZSB02**	31/1/2012
De **AGZSH00** jusqu'à **AGZSH02**	30/6/2013
BAZS100	31/12/2013

Velcade 1 mg, poudre pour solution injectable et VELCADE 3,5 mg, poudre pour solution injectable - Janssen-Cilag - Retrait de lots

25/11/2011

MED 11/B41

En accord avec l'Afssaps, Janssen rappelle :

- tous les lots de la spécialité dénommée VELCADE 1 mg, poudre pour solution injectable (CIP : 386.657.9)
- les lots : 9AZSY00 pér déc 2011, 9AZSY01 pér déc 2011, 9DZSB00 pér jan 2012, 9DZSB01 pér jan 2012, 9DZSB02 pér jan 2012, AGZSH00 pér jun 2013, AGZSH01 pér jun 2013, AGZSH02 pér jan 2013, BAZS100 pér déc 2013, de la spécialité dénommée VELCADE 3,5mg, poudre pour solution injectable (CIP 564.957.3).

Ce rappel fait suite à une inspection sur le site de Ben Venue Laboratories, Inc. Bedford (Ohio, Usa ; fabricant des lots cités ci-dessus) qui a révélé plusieurs manquements aux bonnes pratiques de fabrication, notamment en termes d'assurance de la stérilité. Ben Venue a décidé de cesser toute la production de son site, pour enquêter sur les manquements identifiés.

Les autres lots de VELCADE 3,5 mg, poudre pour solution injectable ne sont pas concernés par le rappel car ils n'ont pas été fabriqués sur le site de Ben Venue.

Les lots utilisés pour les essais cliniques font l'objet d'un examen particulier.

Lire aussi

- VELCADE 1 mg, poud

Hors GHS

Date d'effet 11/5/2005 — Date de radiation NEANT

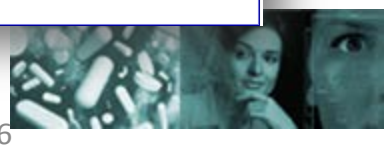
Date d'application	Date de fin	Tarif de responsabilité HT	Date de publication de prix
1/9/2009	NEANT	1098,79€	16/7/2009

Date d'application	Date de fin	Tops établissement
11/5/2005	NEANT	Établissement Privé
11/5/2005	NEANT	Établissement Public

Code CTOM	Date d'application	Date de fin	Majoration
971	21/5/2005	NEANT	1,16
972	21/5/2005	NEANT	1,16
973	21/5/2005	NEANT	1,16
974	21/5/2005	NEANT	1,16

N°	Grp*	Indication	Validité
1	1	En association au melphalan et à la prednisone pour le traitement des patients atteints de myélome multiple non traité au préalable, non éligibles à la chimiothérapie intensive accompagnée d'une greffe de moelle osseuse **Expression CIMX : 1^1^^C900**	NEANT-NEANT
2	1	En monothérapie pour le traitement du myélome multiple en progression chez des patients ayant reçu au moins 1 traitement antérieur et qui ont déjà bénéficié ou qui sont inéligibles, pour une greffe de moelle osseuse **Expression CIMX : 1^1^^C900**	NEANT-NEANT

Grp* : Groupe d'indication :
1 = indications reconnues par l'AMM
2 = situations scientifiquement acceptables



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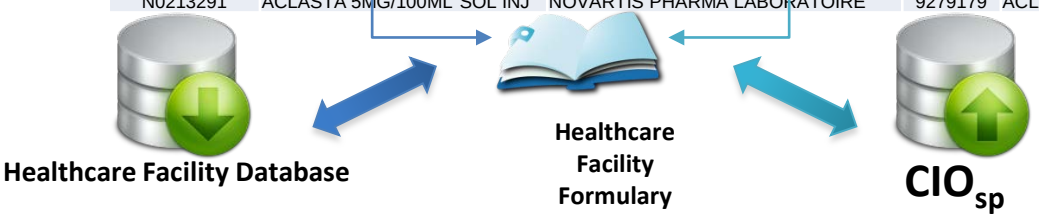
ClOsp Distribution

- Administrative procedures
- Initial mapping done by Phast
- Downloading updates via proprietary mechanism – TelCIO

Internal Code	Healthcare Facility Name	Supplier (Healthcare Facility File)	UCD	ClOsp Display Name	ClOsp (Phast file)
N0213113	ABILIFY 10MG CP	BRISTOL MYERS SQUIBB LABORATOIRE	9261274	ABILIFY 10mg cpr	OTSUKA PHARMA
N0213041	ABILIFY 15MG CP	BRISTOL MYERS SQUIBB LABORATOIRE	9261280	ABILIFY 15mg cpr	OTSUKA PHARMA
N0211056	ACETYLCYSTEINE 200MG SACHET EG	CSP LABORATOIRE	9294291	ACETYLCYSTEINE 200mg EG pdr pr sol buv sachet	E.G. LABO
N0212262	ACICLOVIR 200MG CP SANDOZ	SANDOZ LABORATOIRE	9263706	ACICLOVIR 200mg SANDOZ cpr	SANDOZ
N0211628	ACICLOVIR 250MG INJ SANDOZ	SANDOZ LABORATOIRE	9248486	ACICLOVIR 250mg SANDOZ pdr pr sol pr perf	SANDOZ
N0211114	ACICLOVIR 500MG INJ SANDOZ	SANDOZ LABORATOIRE	9248492	ACICLOVIR 500mg SANDOZ pdr pr sol pr perf	SANDOZ
N0213291	ACLASTA 5MG/100ML SOL INJ	NOVARTIS PHARMA LABORATOIRE	9279179	ACLASTA 5mg/100mL sol pr perf flac	NOVARTIS PHARMA



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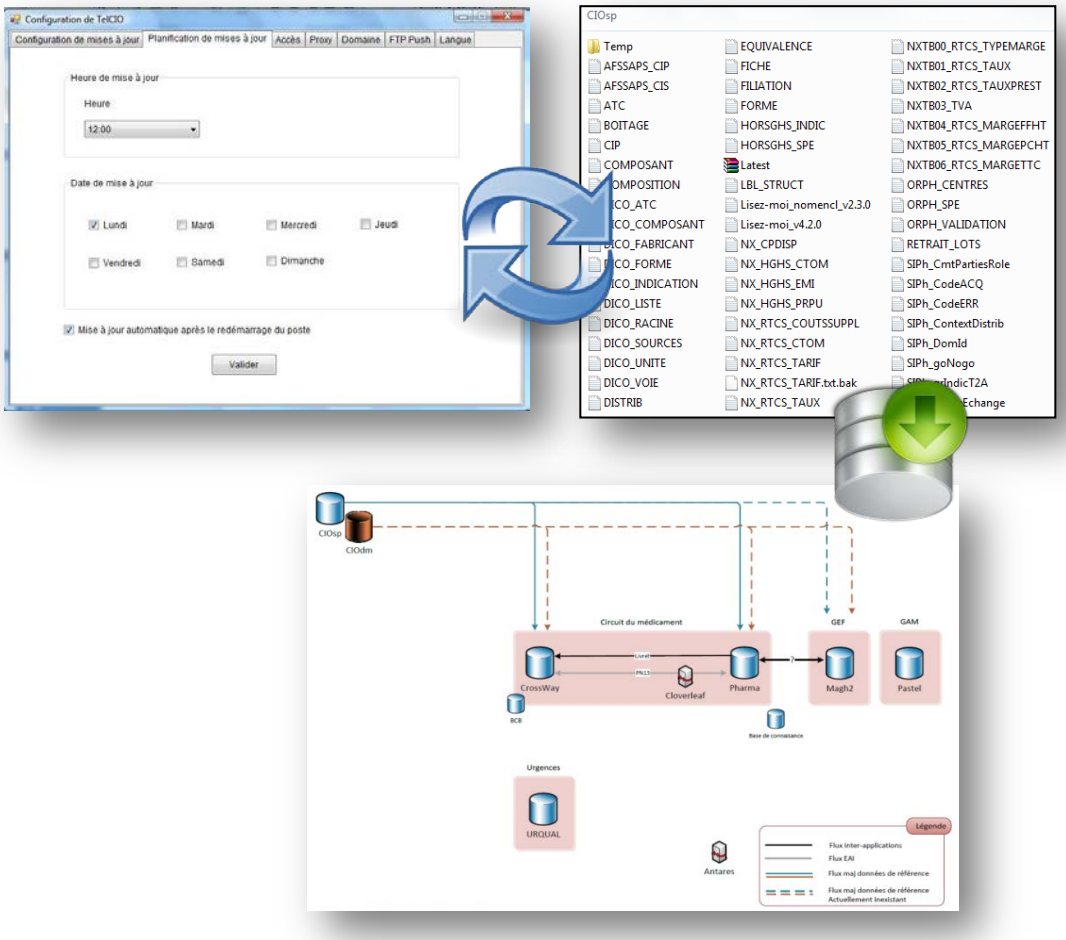
CIOsp Distribution



CIOsp updates

- Tool for download: TelCIO
- Can be programmed to suit user needs

Shortcomings and Challenges:

- EACH healthcare facility is handled individually (pull mechanism).
- EACH application integrates individually – potential differences in versions
- Large volume of files is being transferred
- Facility must ask for mapping of internal codes
- Handling of versioning must be done with care and is very time-consuming

NOT PRACTICAL, TIME- and RESOURCES-consuming

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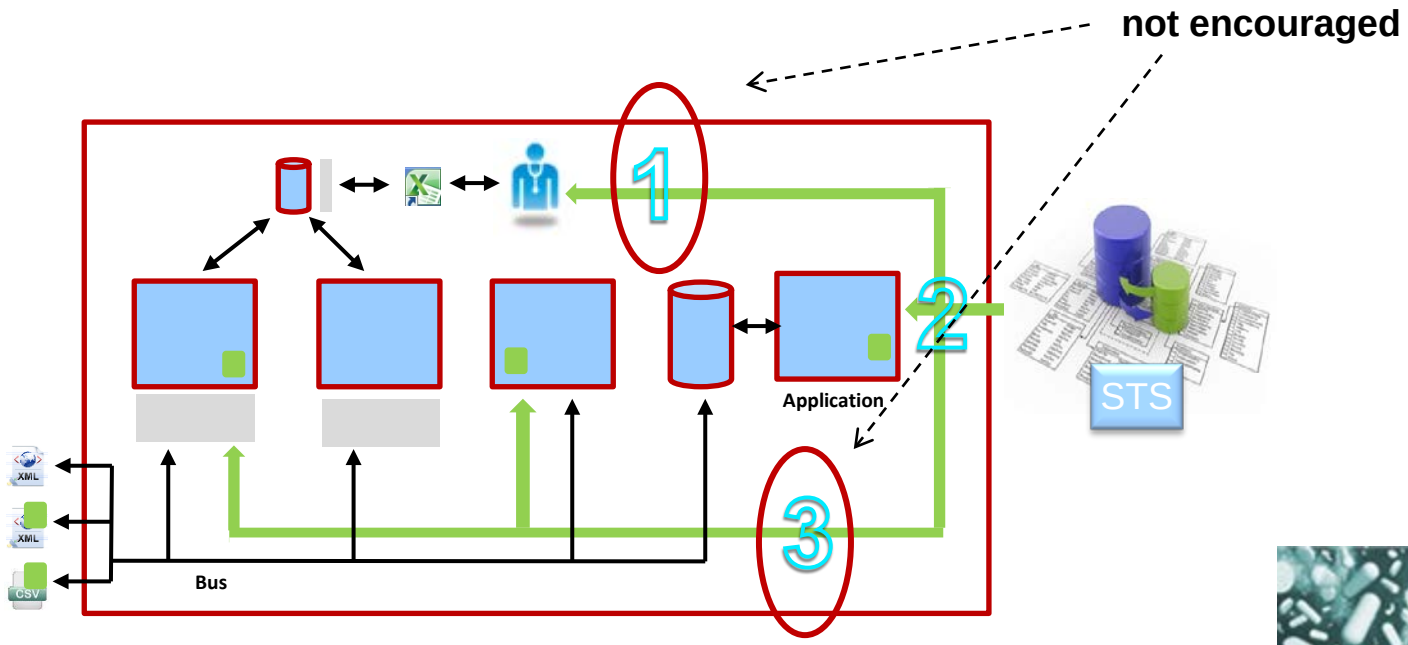
Standard Terminology Service (STS) as a Solution

- Terminology service based on the Common Terminology Services (CTS2) functional model.

- **Purpose**: offer web services for the applications using CIOsp, CIOdm (equivalent of CIOsp for medical devices), eliminating the need for local import, storage and verification of synchronization, centralized management of terminologies in general.



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Common Terminology Services 2 (CTS2)

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What is CTS2?

- Started off as functional specifications for handling terminologies in healthcare (HL7 CTS2 Services Functional Model –SFM) in WG Vocabulary, then SOA).
- The goal of CTS2 is to provide a standardized interface for the use and management of terminologies.
- Model and set of functions to read, query, search, exchange and update and map terminological content.
- Modular approach – implement only what is needed.

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What is CTS2?

- Technical specifications published by OMG under the HSSP auspices respond to these functional specifications, but not only to these, addressing a much larger community – Semantic Web

- OMG Standard:
  - XML Schemas for Code Systems, Maps, Value Sets and Concept Domain Bindings.
  - URL formation rules for Reading, Querying, Importing and Updating the XML Documents.
  - Rules for representing XML in JSON, RDF, Java, Python, and others.
  - API – provides a software blue print

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Why CTS2?

- STS provides single access point for terminologies
- Enables generic clients – plug-ins, “widgets”, etc.
- But how do I replicate STS functionality?
- UMLS, CDC Phin Vads, Mayo Terminologies, BioMedical ontologies …
- How do I integrate PHAST content, UMLS, HL7, … and re-use clients, plug-ins, widgets?

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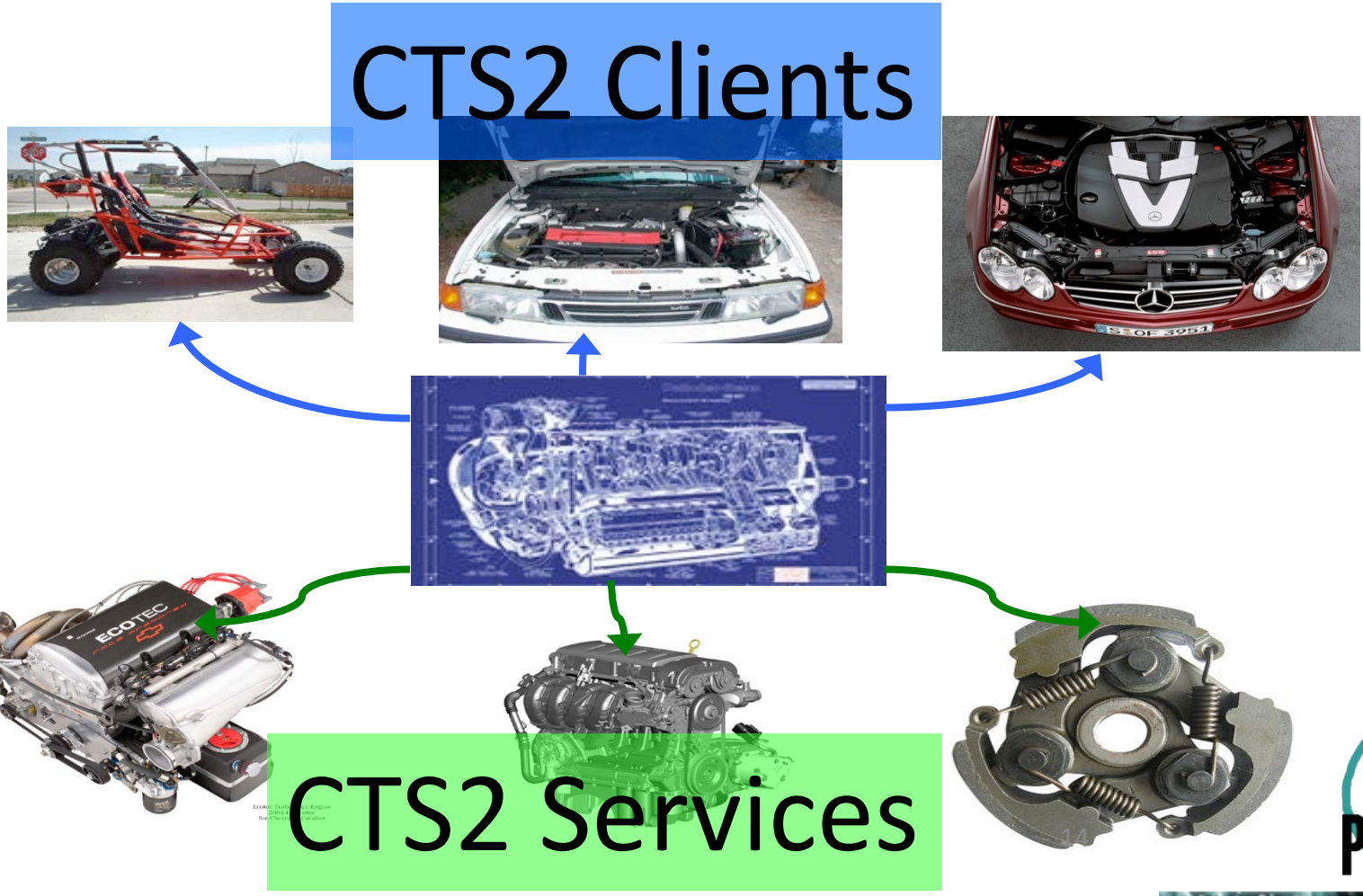
CTS2 Standard as a Blueprint



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Lessons Learnt: Challenges in STS Deployment

- Got two running implementations but not full services, uptake is low.

Possible reasons:

- Some financial costs to integrate the web services but not that significant.
- Legacy systems not allowing direct integration of web services
- Requests to develop “dedicated functions” – takes away resources from deployment
- Industry adoption of CDA documents level 3 is very low – political and financial reasons (value sets).
- Misunderstanding of the benefits of the value a terminology server can bring
- Data stored in STS is not personal data (no patient data), yet big push back about security and privacy (even if not an issue)
- Psychological barrier in accepting “outside” data
- Misunderstanding of SOA-based services, “palpable interface” also needed, education is needed, OMG can help
- Resistance to change

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More information:

- http://wiki.phast.fr (EN) or
- http://www.phast.fr (FR)
- http://informatics.mayo.edu/cts2
- http://www.omg.org/spec/cts2

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