

Terminologie utilisateur,
Terminologie d'interface,
Terminologies de référence, et
Terminologie d'agrégation

le projet MERITERM

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**Robert Vander Stichele, Département d' Informatique médicale, EuroRec,
Université de Gand, Belgique**

Déclaration de conflit d' intérêt

Je suis médecin généraliste,
pratiquant dans la ville de Gand, Belgique

Je suis pharmacologue clinique,
professeur à l' Université de Gand

Je travaille sur des projets Européens (FP7 et H2020),
dans le cadre :

- un service universitaire d' informatique médicale (RAMIT)
- une association Européenne
de marchands de logiciels médicaux (EuroRec)



MERITERM

Medical Enduser and Reference Interface Terminology

Acknowledgements of co-workers

Elena Cardillo

Joseph Roumier

Marc Jamouille

Maxime Warnier

Dirk Van Nimwegen

“Investigation starts with a problem”

Karl Popper

International reference terminologies are in English.

Health care worker have the fundamental right to work, document, practice continuing education, search for point of care EBM information IN THEIR MOTHER TONGUE LANGUAGE.

Evidence shows that it provides a more efficient information flow.

Many E-health engineers and medical informaticians speak of semantic interoperability, as if English is the only language in the world.

Objective

Provide a hybrid healthcare interface terminology capable of

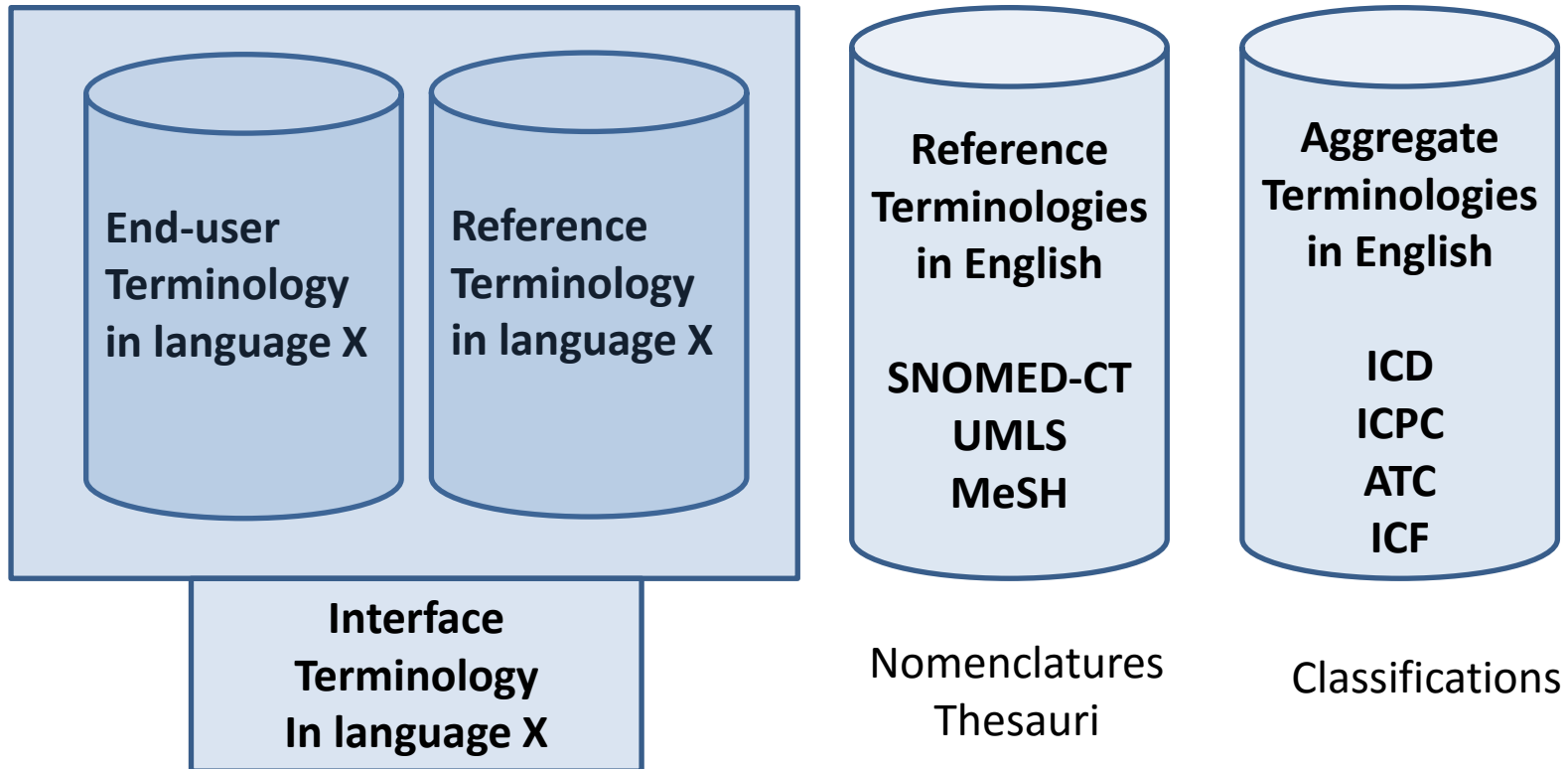
“Systematic collection of healthcare-related phrases (terms) to support clinicians’ entries of patient-related information into computer programs ...”

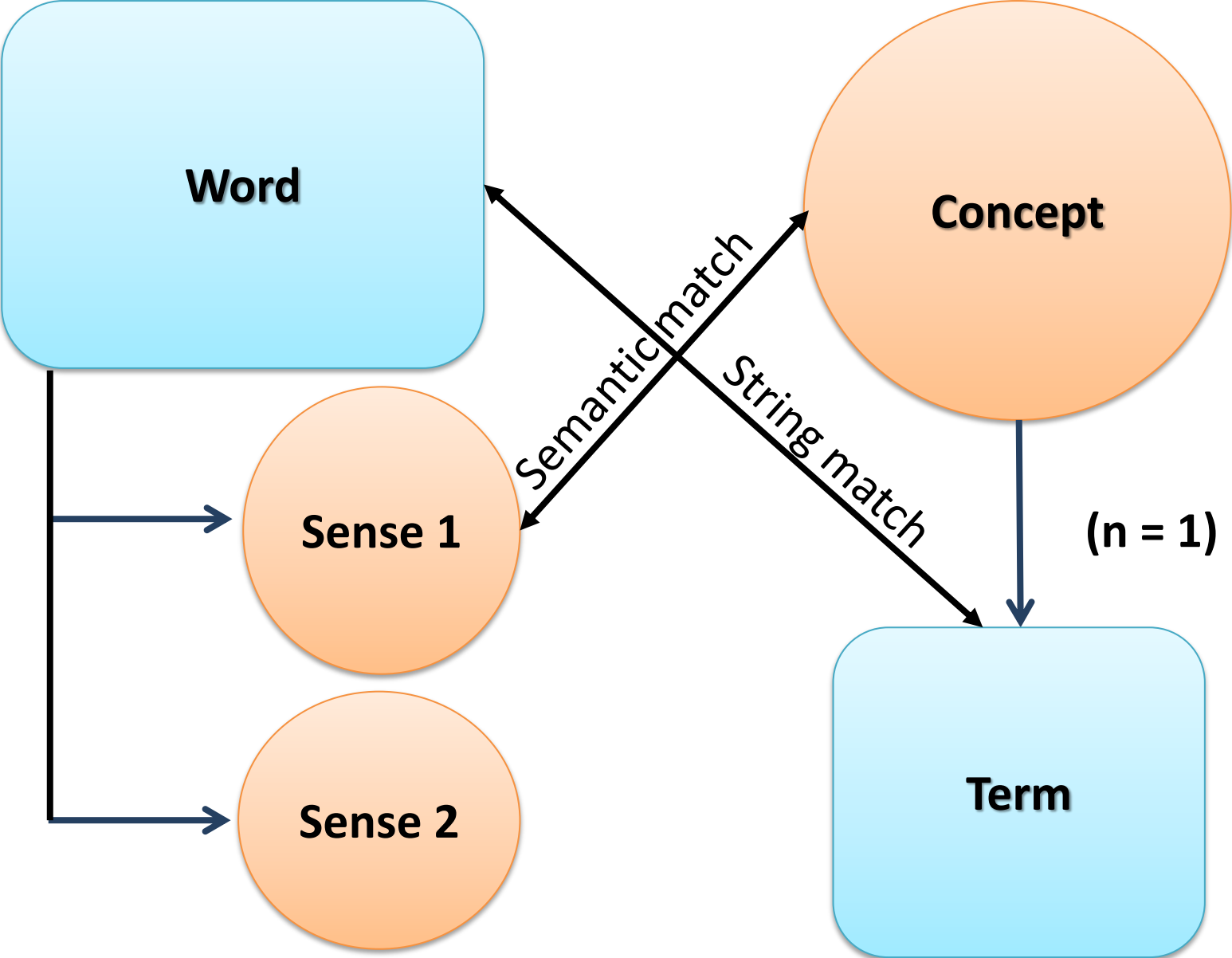
Rosembloom et al, 2006

That includes:

1. A conceptual reference terminology
 - Multidisciplinary, multilingual
 - Restricted to reference concepts
 - Linked to international nomenclatures, thesauri, classifications, ontologies
2. A series of specific end-user lexicons
 - One for each language
 - Bridged to the reference terminology
 - Connected to rich linguistic corpora for NLP

Terminology : What's in a name ?

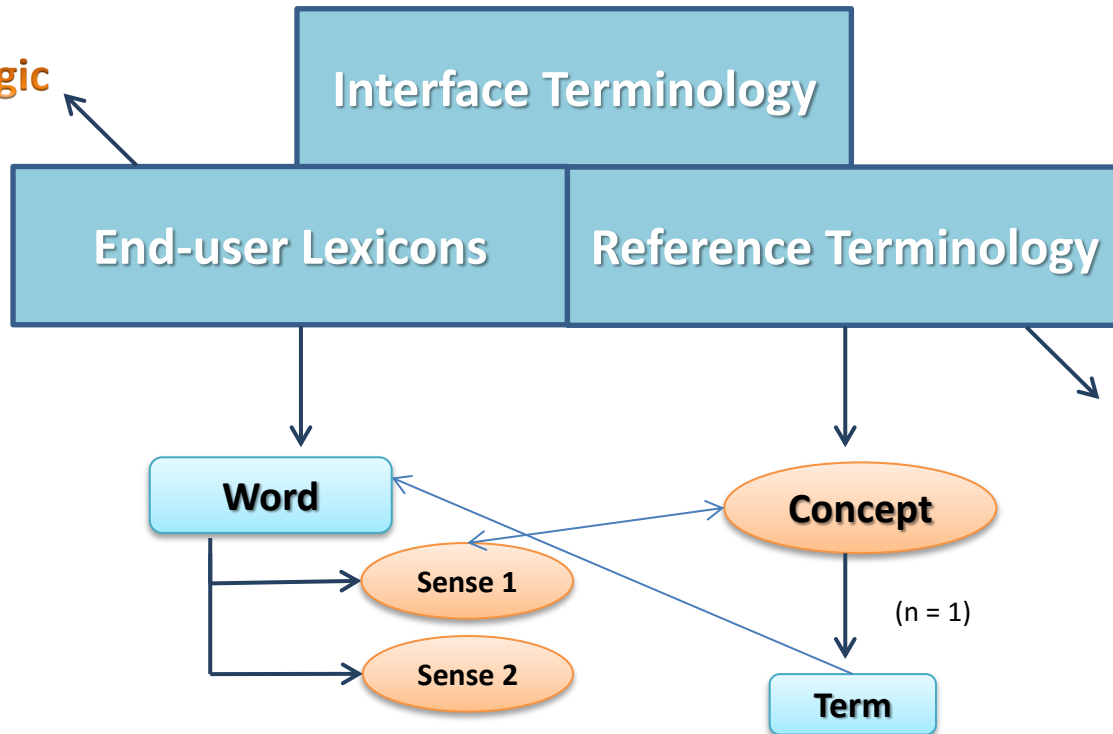




Approach



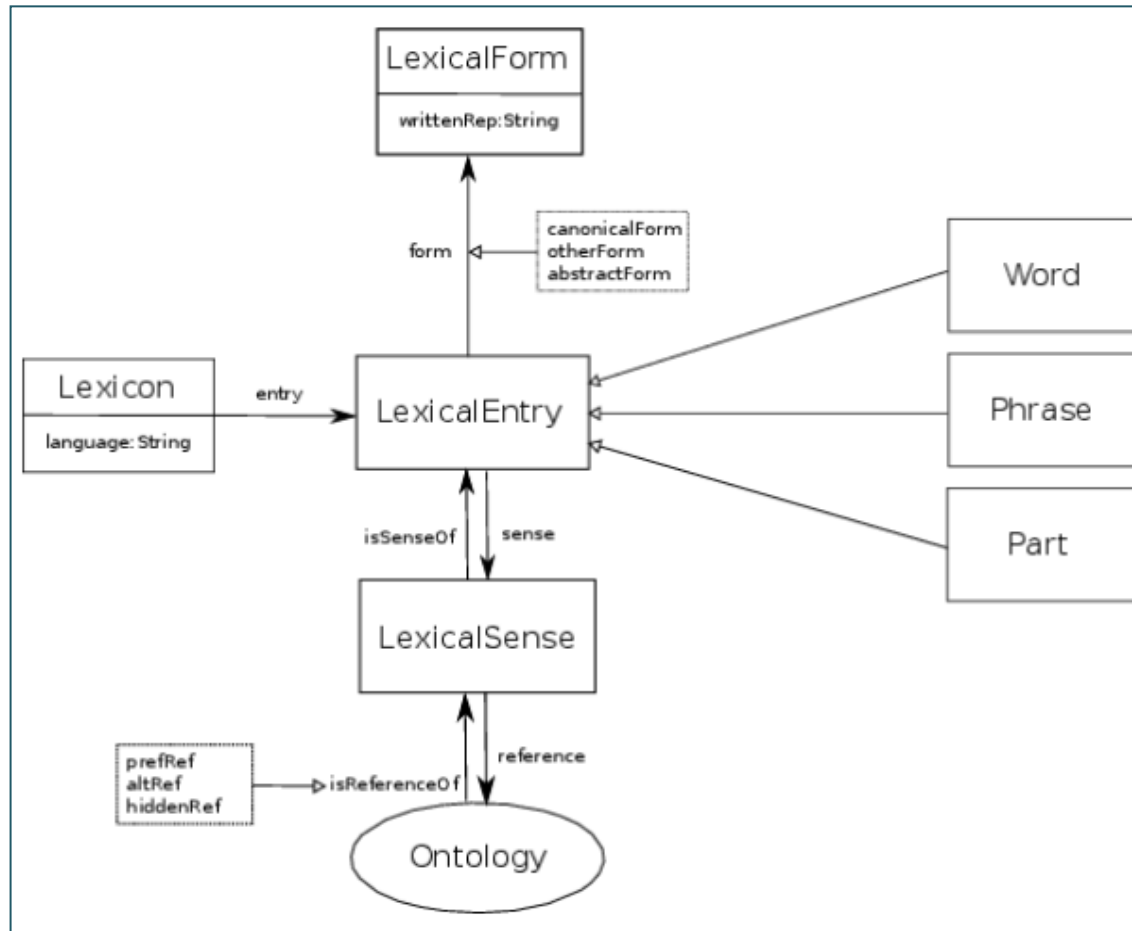
Semasiologic



Onomasiologic

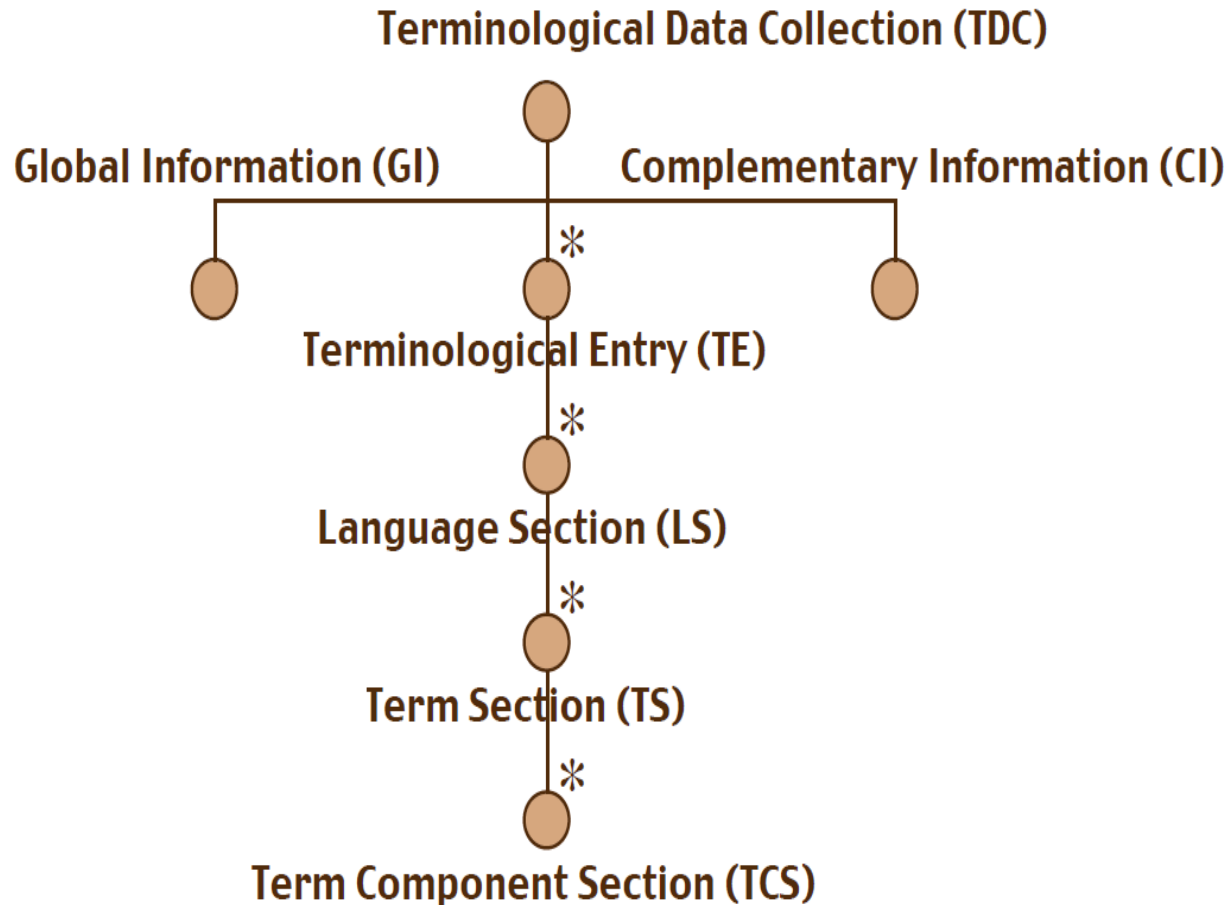


The ISO-Norm LMF : Lexical Markup Framework (ISO 24613)



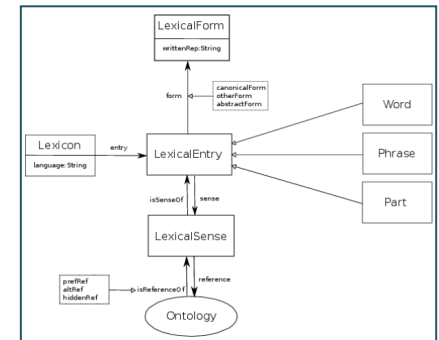
The Lemon core structure of a lexical terminology

The ISO-Norm TMF : Terminological Markup Framework (ISO 16642)



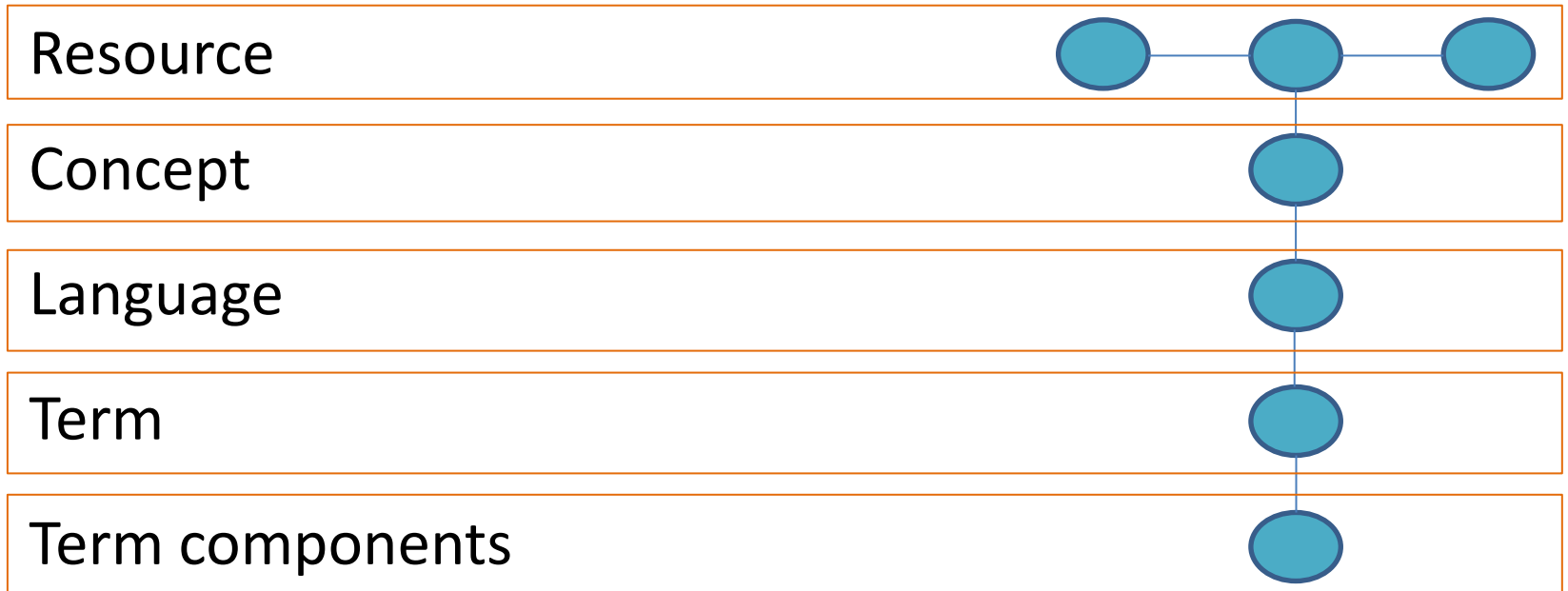
Lemon/LMF-based End-user Lexicons

- ISO 24613 - Language Markup Framework (LMF) as a Requirement for the Lexicon
- Use of the Lemon model (LEXicon Model for ONtologies) because:
 - Based on LMF
 - RDF-native model
 - Easy to link to data category registries (ISOcat)
 - The sense of a lexical entry can be defined by a reference to an external resource (E.g. our TMF-based resource)
 - More powerful and less verbose than the LMF model
 - <http://lemon-model.net/> (McCrae et al.)



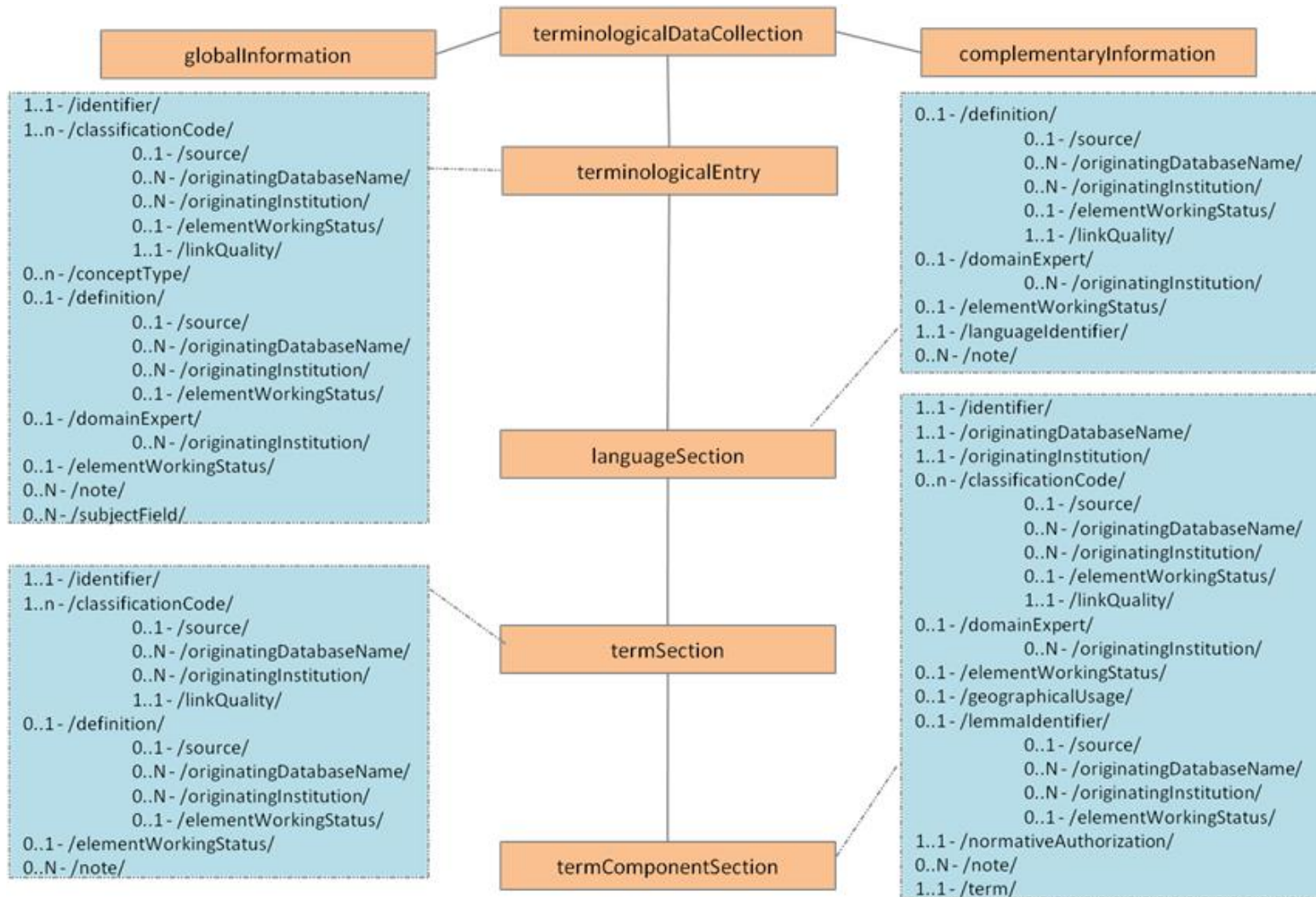
TMF-based Reference Terminology

- **ISO 16642: Terminological Markup Framework**

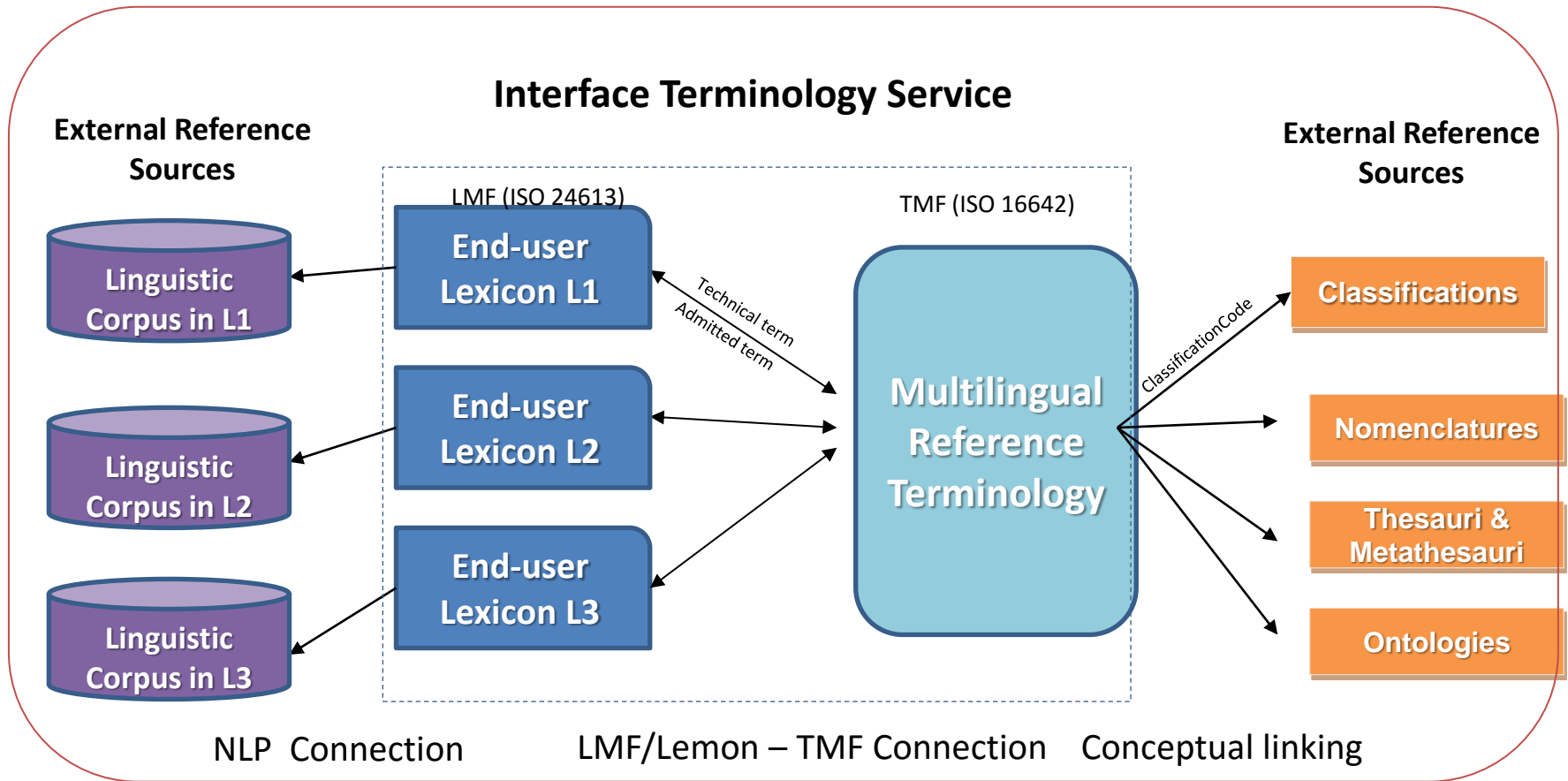


- **ISO 12620 and ISOcat Data categories registry**

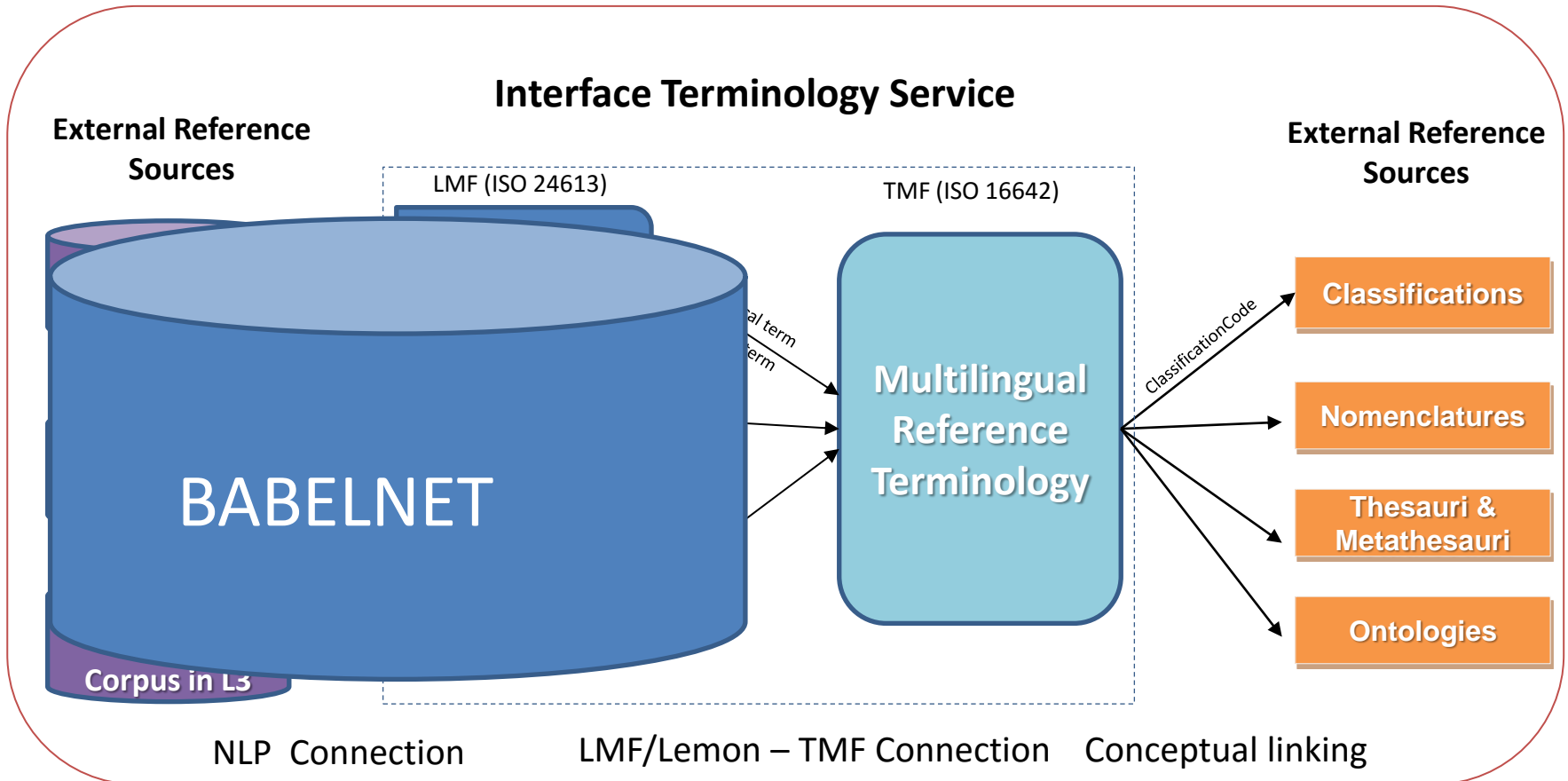
TMF-based Reference Terminology



Architecture



Architecture



International standards for multilingual terminologies

Lexical terminologies

ISO – Standard LMF (ISO 24613)

Lexicons

Dictionaries, Glossaries, Vocabularies

Babelnet (www.babelnet.org)

Conceptual terminologies

ISO – Standard TMF (ISO 16642)

Controlled Vocabularies

Nomenclatures

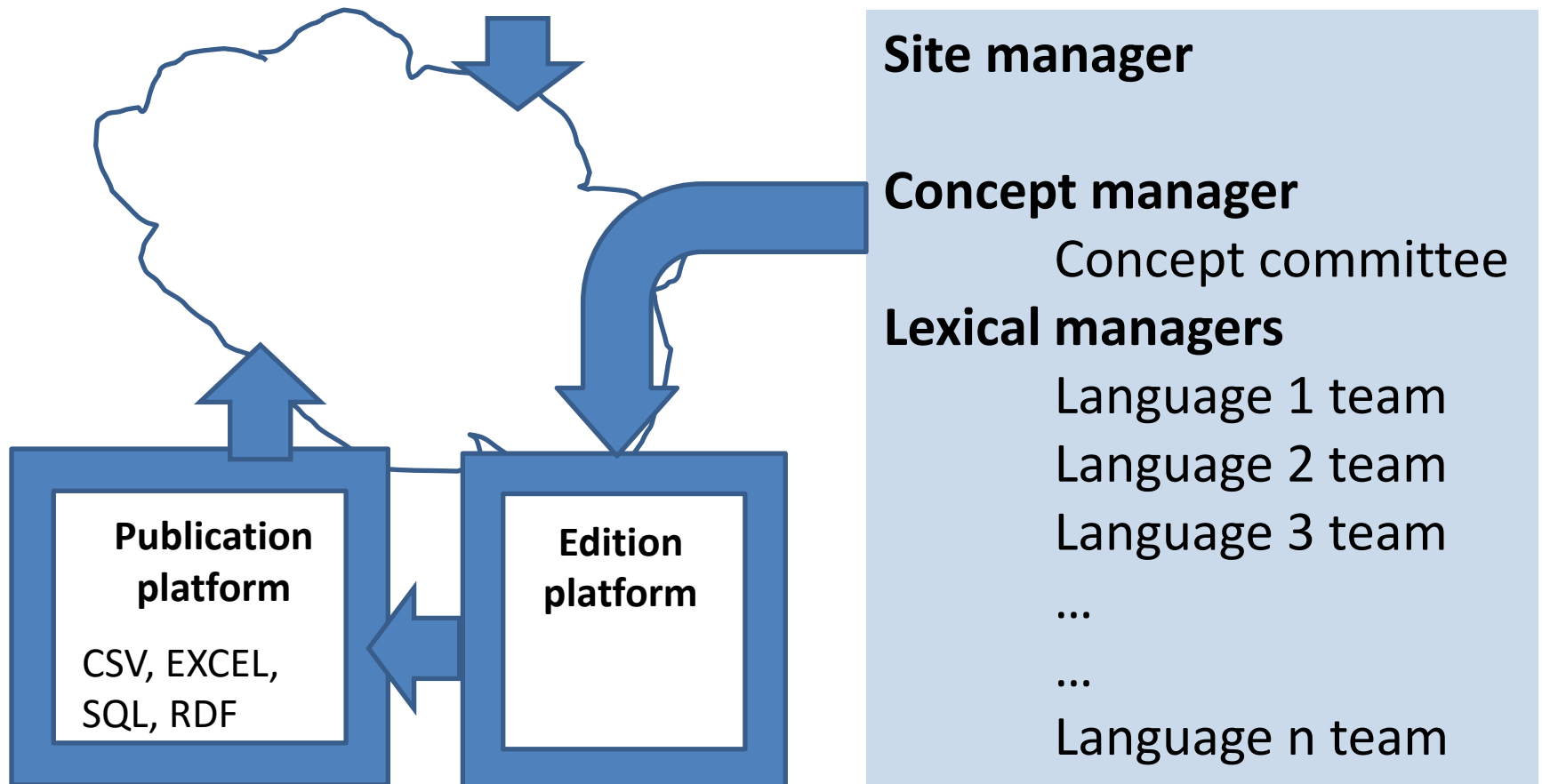
Classifications



Fig 5. Resources and tools

Dissemination and Translation Website for a multilingual interface terminology

End-user (Human consultation)
Web services (SQL, OWL)



Existing end-user terminologies in General Practice

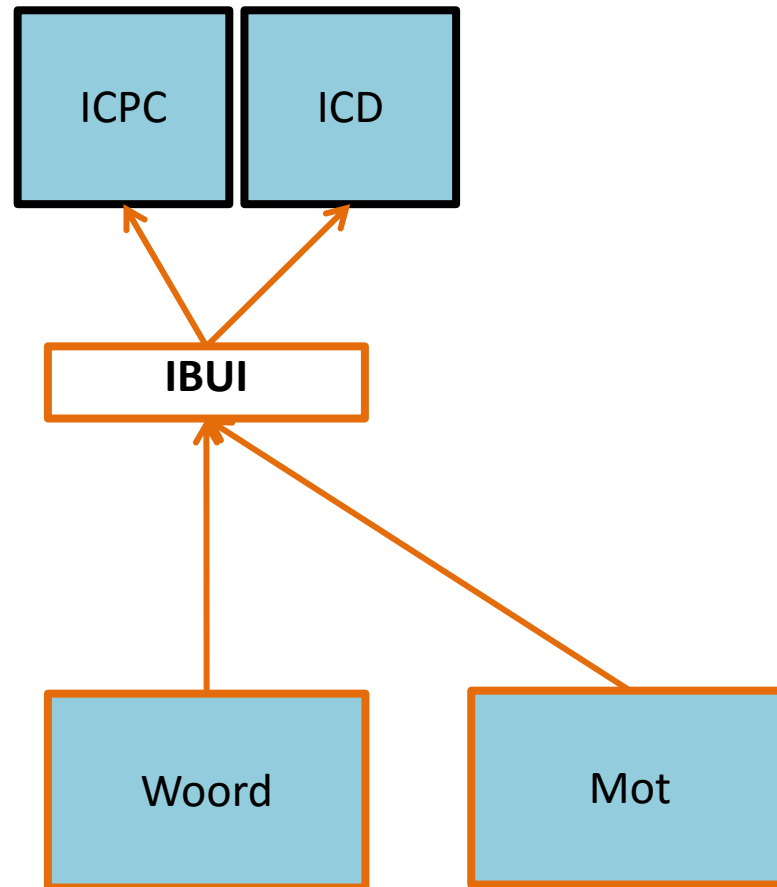
ICPC-PLUS (Australia)

3BT (Belgique)

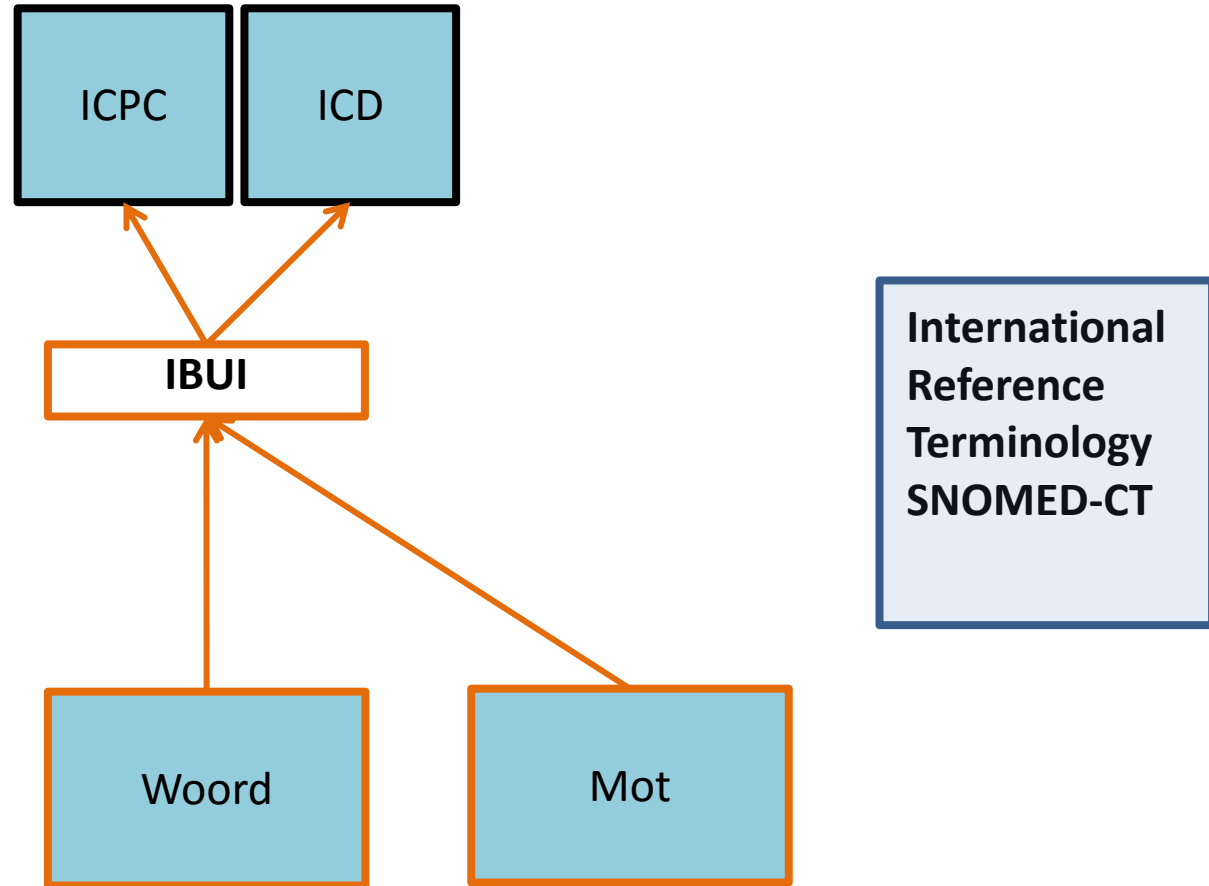
Belgian, Bilingual, Bicoded

300.000 words and phrases, of which
45.000 double coded to ICD and ICPC

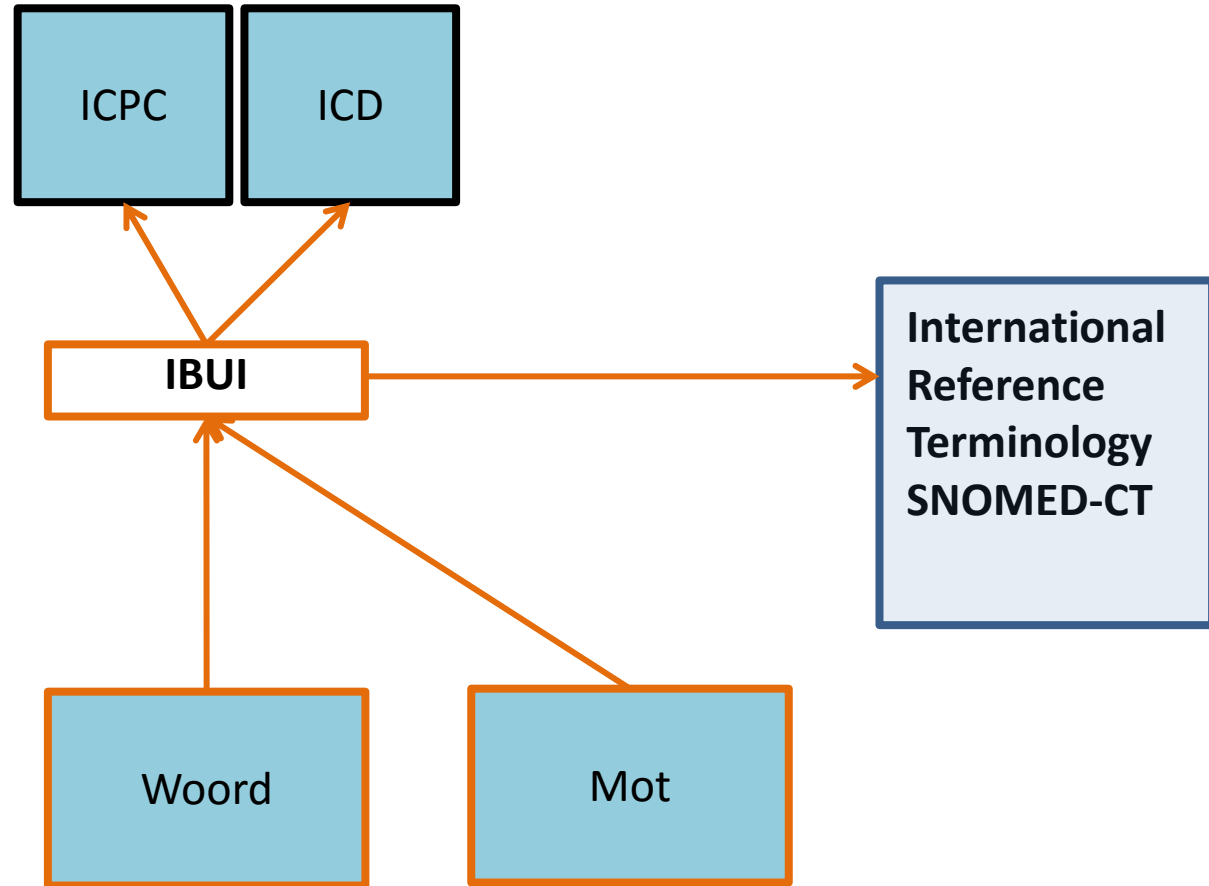
3BT Belgian Bicoded Bilingual Thesaurus



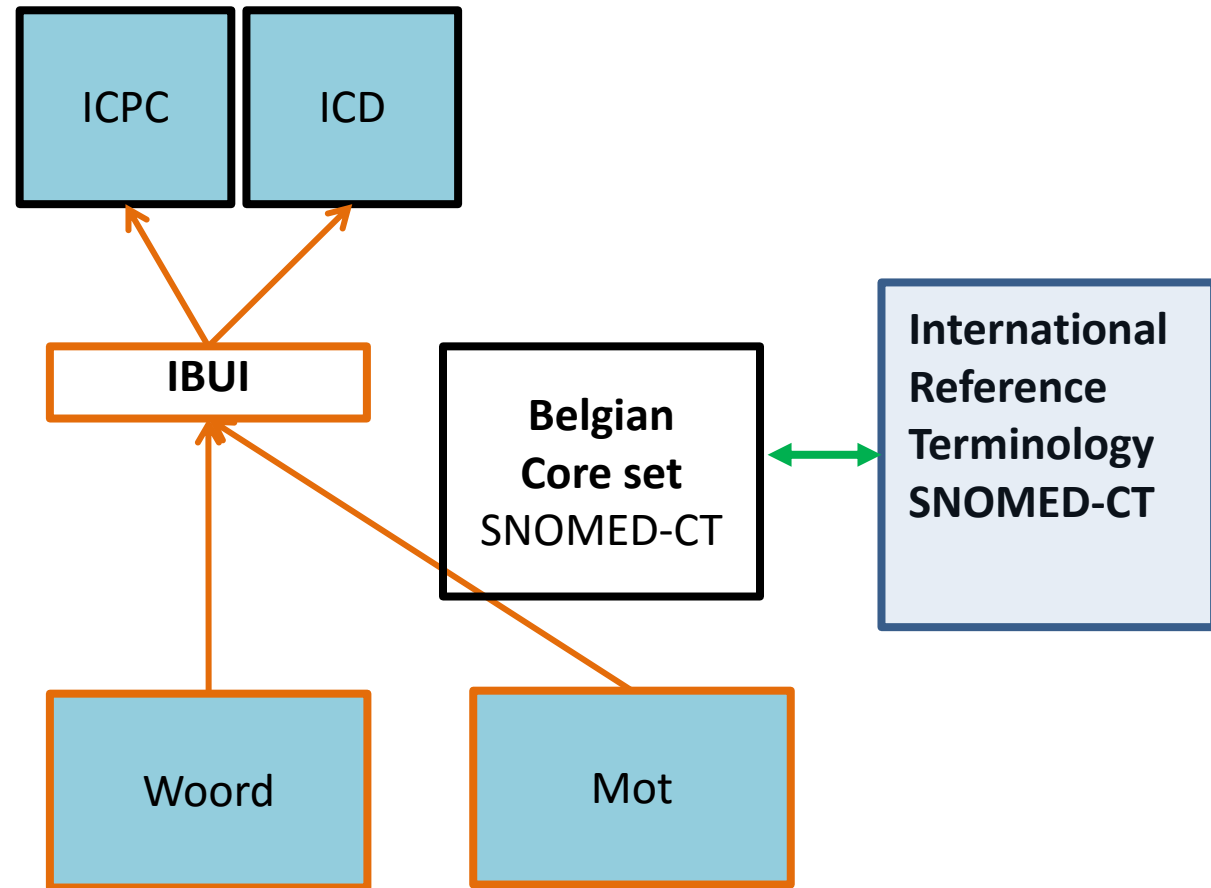
3BT Belgian Bicoded Bilingual Thesaurus



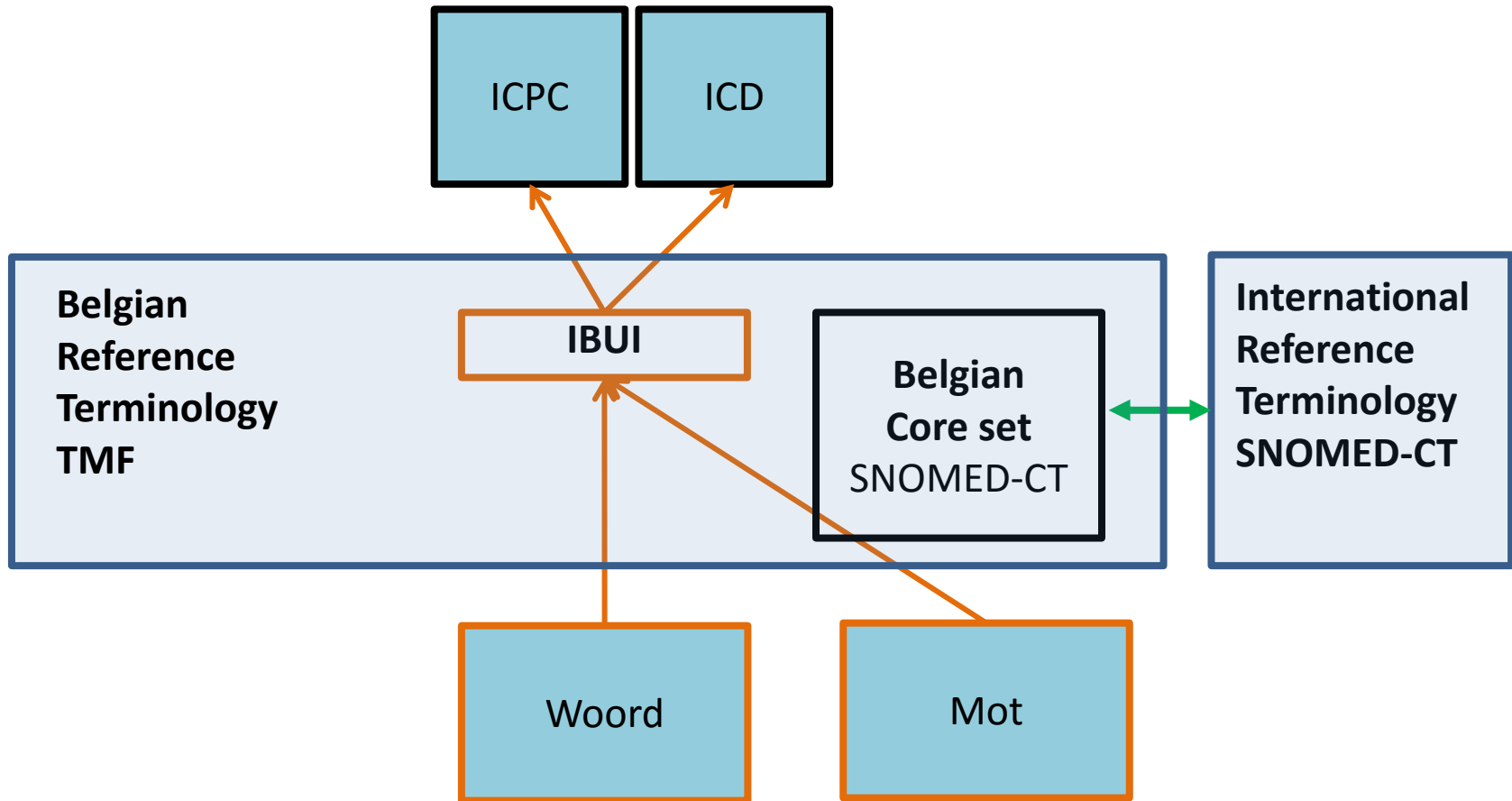
3BT Belgian Bicoded Bilingual Thesaurus



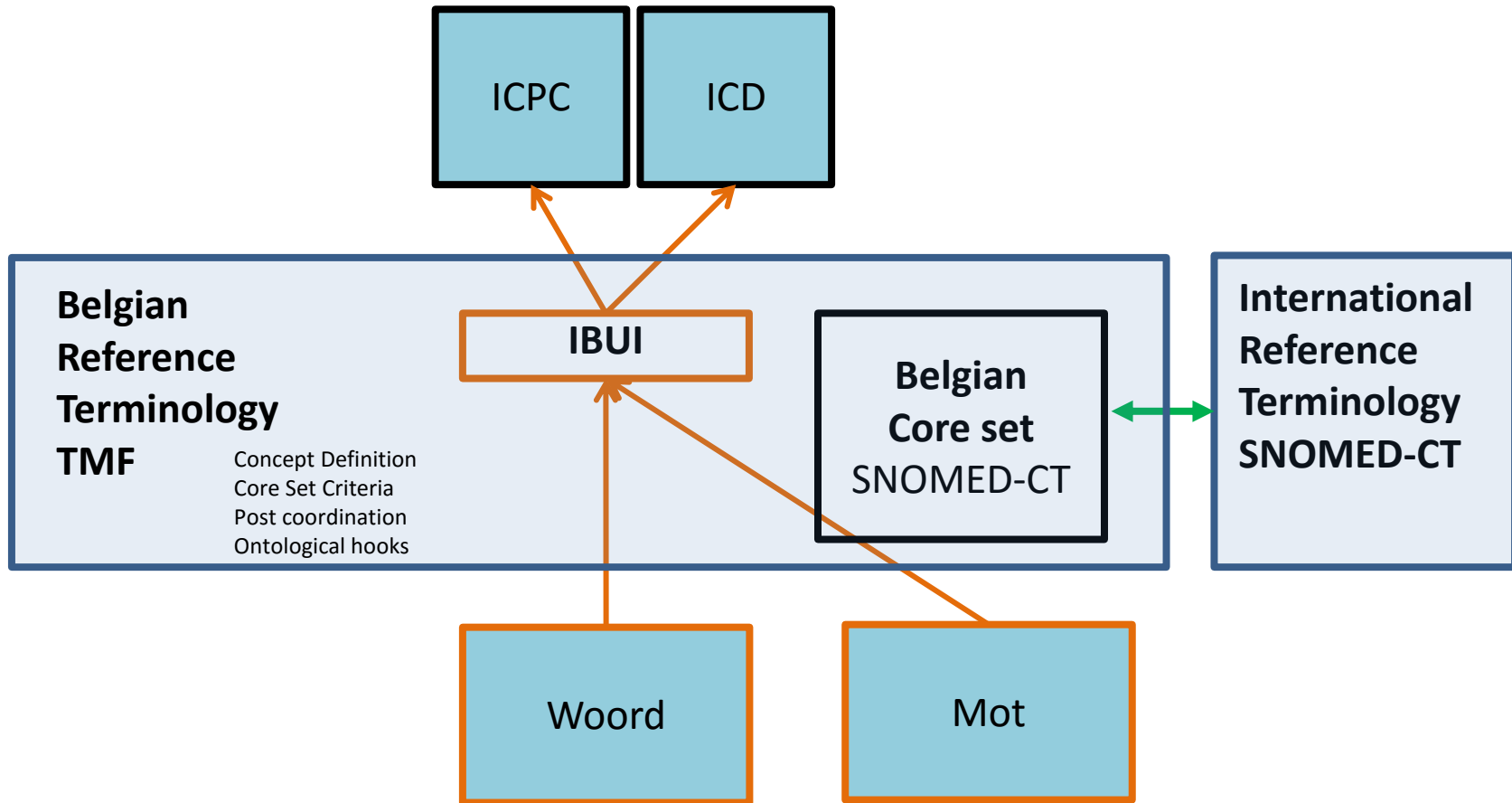
3BT Belgian Bicoded Bilingual Thesaurus + Belgian Core Set



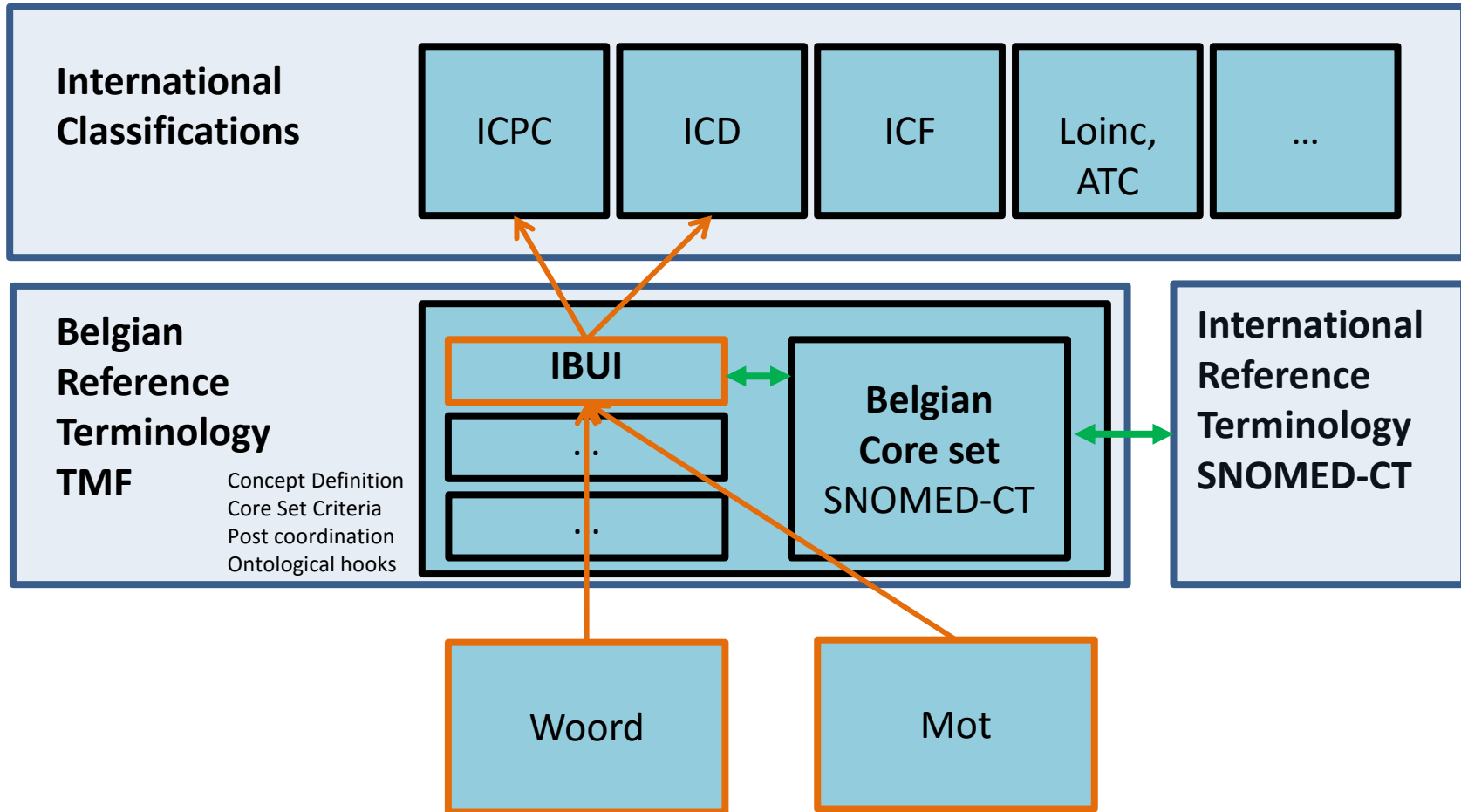
Medical Enduser Reference Interface Terminology (Meriterm)



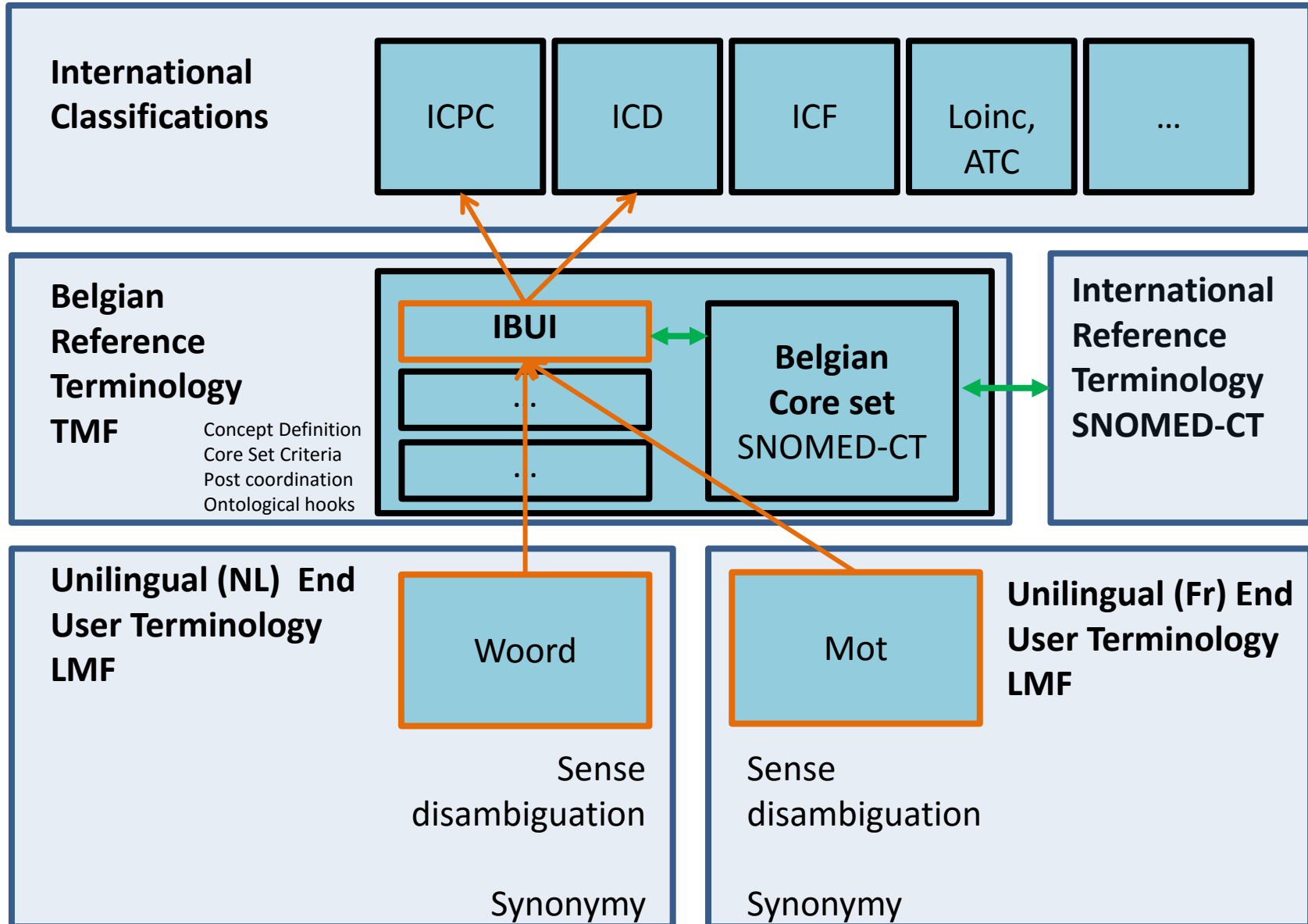
Medical Enduser Reference Interface Terminology (Meriterm)



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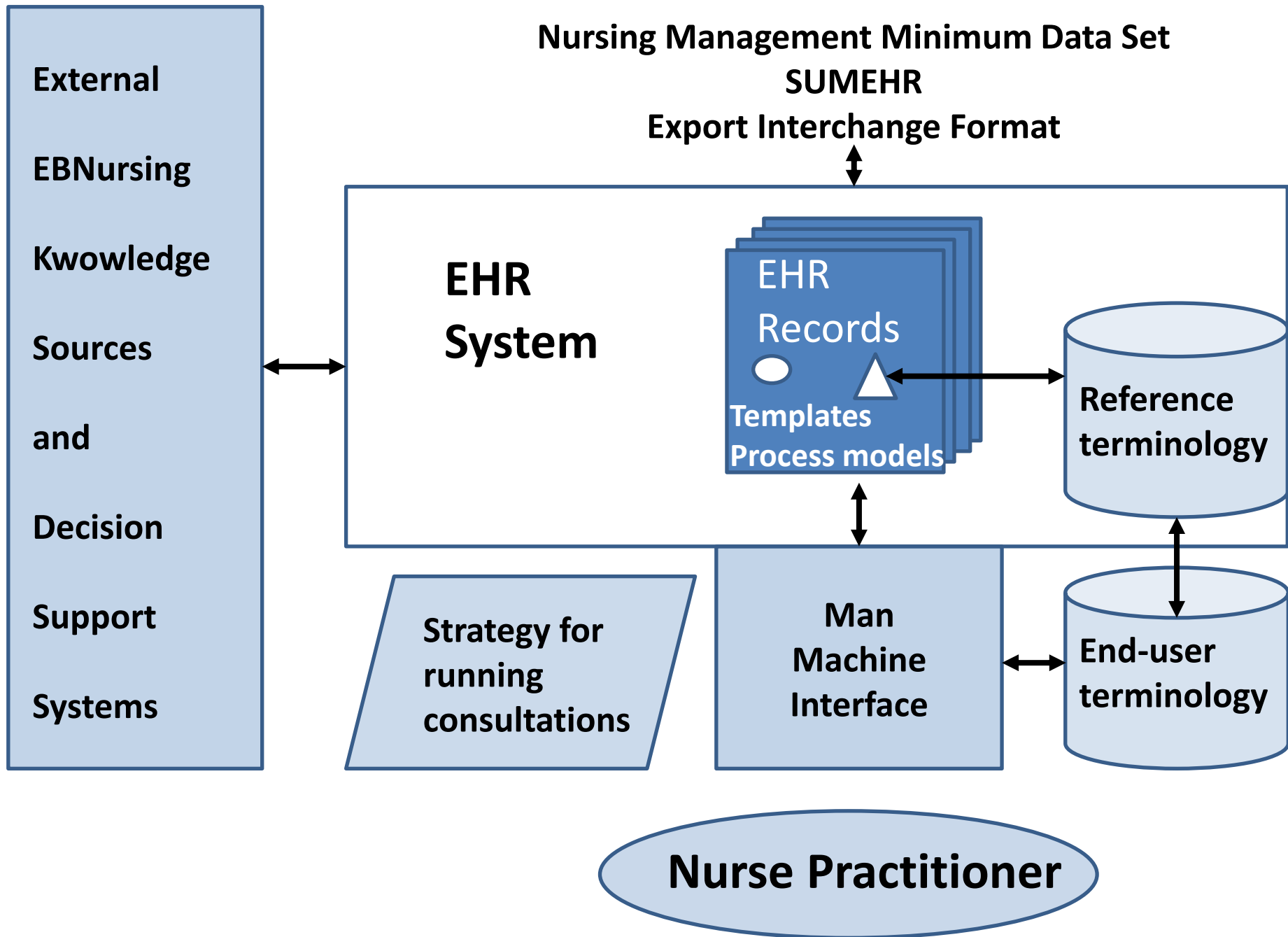


For the end-user approach

The choice between:

- An end-user thesaurus with translated SNOMED-CT Terms
- An end-user thesaurus linked to a standardized Interface Terminology

The context of the terminology problem In the Electronic Health Record



Semantic layer for iso-semantic information

Information
model 1
OpenEHR

Information
model 2
HL7

Information
model 3
ISO 13606

Information
model 4
epSOS
Value Sets

International
reference terminology
SNOMED
(comprehensive)

International
reference terminology
UMLS
(comprehensive)

Classification
system 1
ICPC
(low granularity)

Classification
system 2
ICD
(high granularity)

Thesaurus
MeSH
(information retrieval)

Local reference terminology (core set)

Local end-user terminology (linguistic)

CONCLUSIONS

Ce ne sera pas demain la veille de la révolution

Mais on peut toujours débiter, en sachant le chemin