

Learning Analytics

Architecture CAPSULE

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Sommaire

1. SCHÉMA DE L'ARCHITECTURE

Présentation
Explication / choix

2. XAPI TO CALIPER

Schéma de l'application
Exemples de conversion
Schéma de traduction

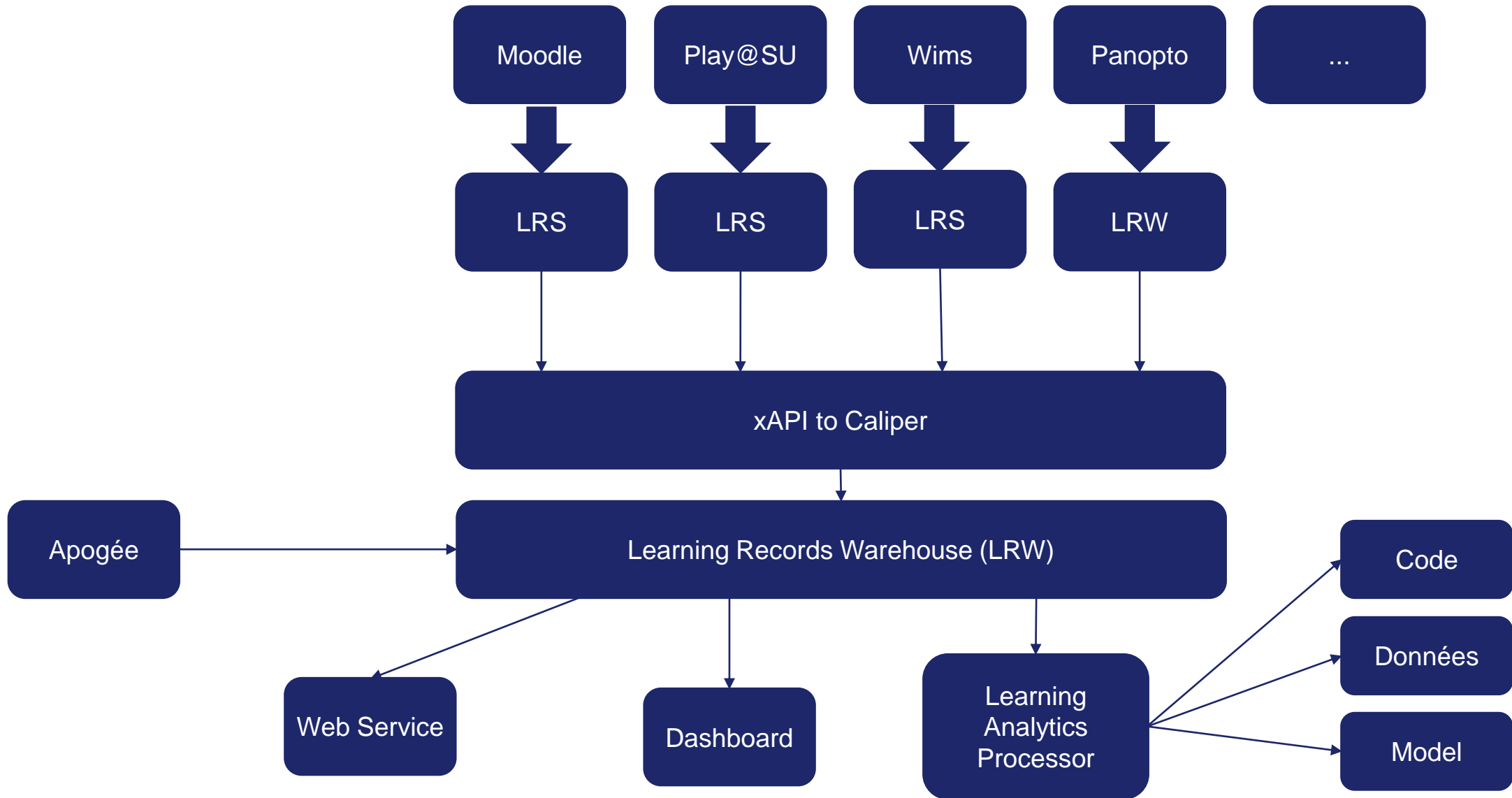
3. TABLEAU DE BORD (DASHBOARD)

Solution existante
Développement

4. RGPD

1

ARCHITECTURE



Architecture

Learning Record Store

Learning locker

- HT2LAB
- Open Source
- xAPI (Tin Can)

Learning Record Warehouse

OpenLRW

- Apereo
- Educational Community License version 2.0
- IMS Caliper (Traces)
- IMS OneRoster (donnée SIE)
- « xAPI »

Architecture

xAPI To Caliper

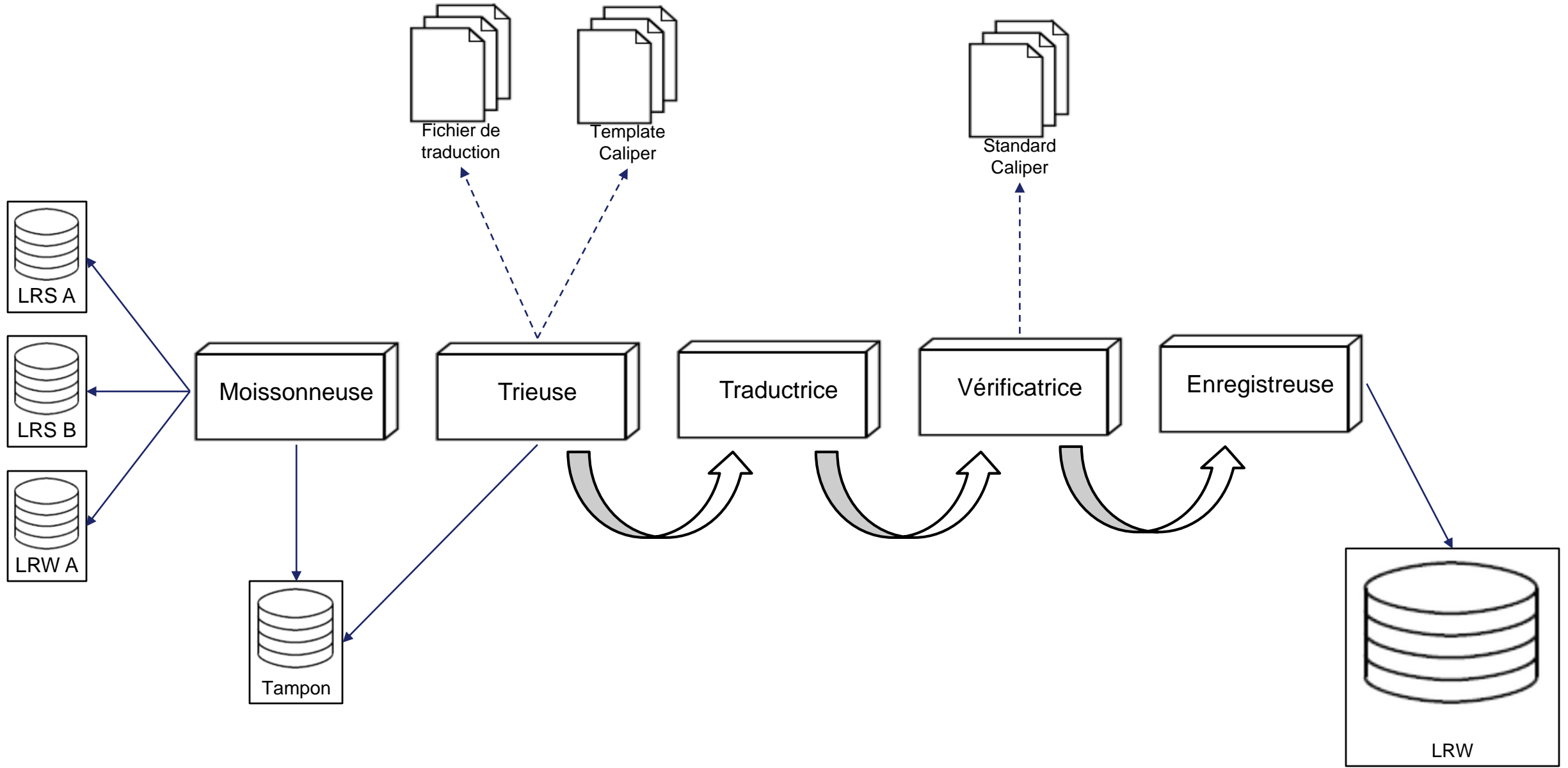
- Développement interne CAPSULE « QUINTETTE »
- Vérification de la qualité des données
- Formatage

Dashboard

- Moodle – LTI
- Application des modèles du Learning Analytics Processor (L.A.P.)
- Utilisation des données produites par le L.A.P.

2

XAPI TO CALIPER



Traduction

Xapi {Actor, Verb, Object}

Caliper {Actor, Action, Activity}

Instance example for mapping between IMS Caliper and xAPI

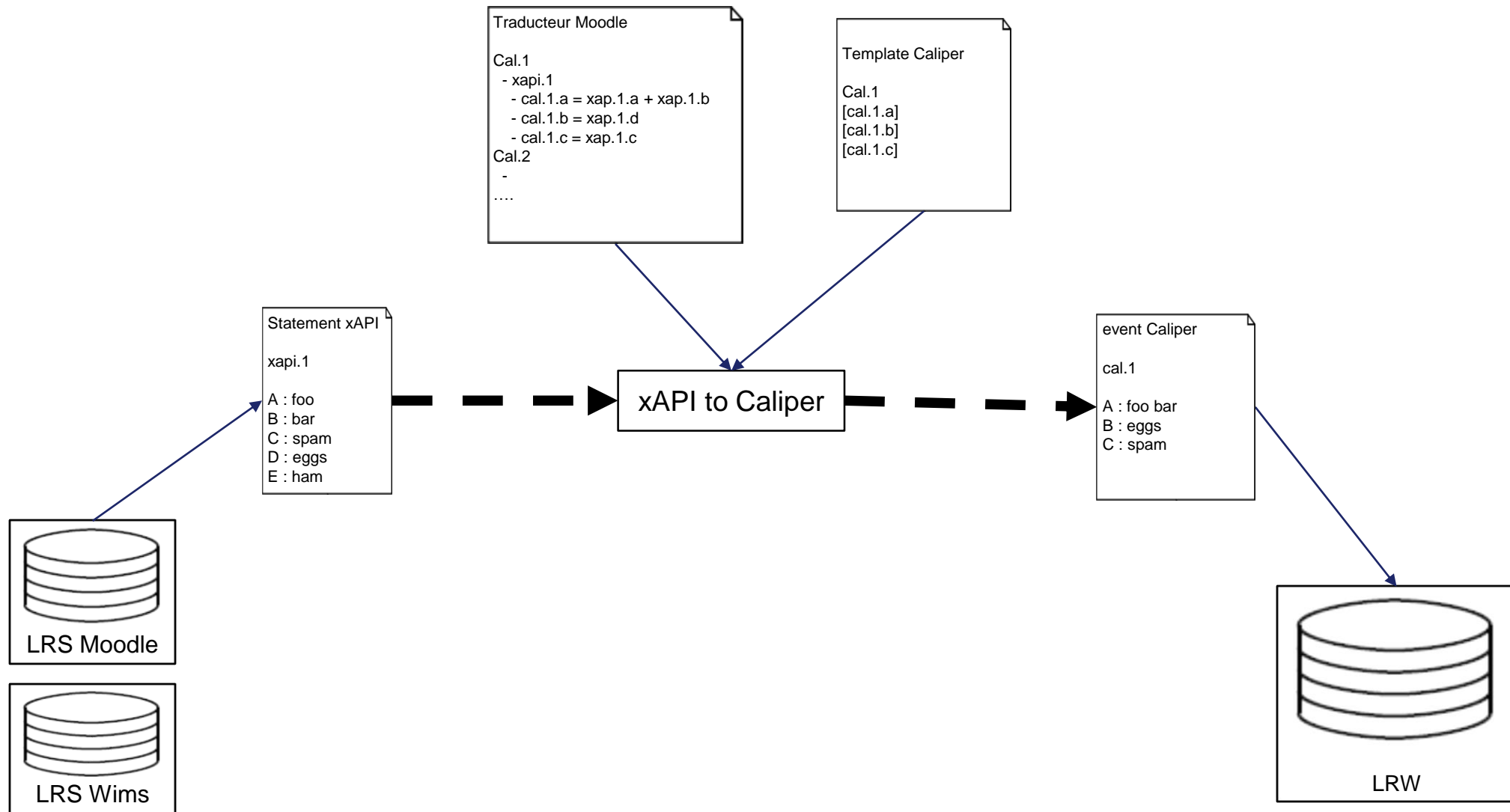
<IMS Caliper properties of assignable>

Property	Data Type	Description	Source
Assignable			
dateCreated	ISO-8601 timestamp	Date that the assignable object was created	schema.org/CreativeWork
dateModified	ISO-8601 timestamp	Date that the assignable object was modified	schema.org/CreativeWork
datePublished	ISO-8601 timestamp	Date that the assignable object was published	schema.org/CreativeWork
dateToStartOn	ISO-8601 timestamp	Date that the assignable object is allowed to be started by Agent	
dateToActivate	ISO-8601 timestamp	Date that the assignable object is active	
dateToShow	ISO-8601 timestamp	Date that the assignable object shows to students	
dateToSubmit	ISO-8601 timestamp	Date that the assignable object should be submitted	
maxAttempts	int	Maximum number of attempts	
maxSubmits		Maximum number of submits	
maxScore	double	Maximum score allowed	

Event Attribute	Required	Details	Comments
actor	Yes	Person, EdApp	
action	Yes	From table above	
object	Yes	Assignable Digital Resource, N/A	
generated	Yes	Attempt, N/A	
target	N/A		
federatedSession	No	session id	Optional, but recommended
edApp	No	edApp	Optional, but recommended
group	No	Organization	Optional, but recommended
membership	No	Membership	Optional, but recommended
eventTime	Yes	Event time	

<xAPI Statement properties>

Property	Type	Description	Required
id	UUID	UUID assigned by LRS if not set by the Activity Provider.	Recommended
actor	Object	Who the Statement is about, as an Agent or Group Object. Represents the "I" in "I Did This".	Required
verb	Object	Action of the Learner or Team Object. Represents the "Did" in "I Did This".	Required
object	Object	Activity, Agent, or another Statement that is the Object of the Statement. Represents the "This" in "I Did This". Note that Objects which are provided as a value for this field should include an "objectType" field. If not specified, the Object is assumed to be an Activity.	Required
result	Object	Result Object, further details representing a measured outcome relevant to the specified Verb.	Optional
context	Object	Context that gives the Statement more meaning. Examples: a team the Actor is working with, altitude at which a scenario was attempted in a flight simulator.	Optional
timestamp	Date/Time	Timestamp (Formatted according to ISO 8601) of when the events described within this Statement occurred. If not provided, LRS should set this to the value of "stored" time.	Optional
stored	Date/Time	Timestamp (Formatted according to ISO 8601) of when this Statement was recorded. Set by LRS.	Set by LRS
authority	Object	Agent who is asserting this Statement is true. Verified by the LRS based on authentication, and set by LRS if left blank.	Optional



3

DASHBOARD

Dashboard

Plateforme existante (à l'étude)

- Open Dashboard
- Power BI
- Intelliboard

Développement Interne

- Plateforme Sorbonne Université (CAS)
 - » Gestion des autorisation d'utilisation des données personnelles
- Bibliothèques à l'étude (3d JS, Chart JS, Cube JS)
- Intégration dans Moodle
 - » Via Plugin
 - » Via LTI (récupération de l'authentification, rôles, contexte...)

4

RGPD

RGPD

Fiche de registre d'activité

- Par plateforme
 - » Définition du type de données traitées
 - » De la durée de rétention
 - » Des mesures de protection des données (ACL, chiffrement, traçabilité...)

Consentement utilisateur

- Explicite : Demande d'accord via les plateformes (Moodle, tableau de bord...)
- Eclairé : Informations sur la durée et la finalité

Gestion des droits

- D'accès aux données
- De modification
- De suppression

Export de donnée (pour la recherche)

- Anonymisation

5

EQUIPE TECHNIQUE

Equipe technique

Administration système

- Cyrille SELAMI
- Nicolas CHIEZE

Développeurs

- Jean-François LEVEQUE
- Victor DA SILVA CASEIRO
- Thomas NAUDIN

MERCI

