ODS-LITE enabled by Lexikon

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Note: ODS-LITE is <u>not</u> an official ASAM Term or Current Initiative

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ODS-LITE Contents

➤ Review – ODS History.

➤ The key elements

➤ ODS-LITE Environment

➤ Integration Framework.

➤ Lexikon Metadata Management.

➤ Implementation Strategy.

➤ Summary.

ODS

Originally:-

Offline Daten Schnittstelle

or

Offline Data Interface

The focus was on the design and specification of an API to interface between Test Systems and a structured data repository

ODS

Now Called:-

Open Data Services

The focus was on the design and specification of an API to interface between Test Systems and a structured data repository

Model-based Approach

Three constituent elements for ODS Standard :-

1. API

2. Base Model

3. ASAM Transport Format (ATF)

Only 3 elements – it should be simple…..

Current ASAM-ODS Approach

However;

> ➤ It is seen to be complex.

> ➤ The Benefits are not clear to the whole of the enterprise.

> ➤ Questions of how it integrates with Legacy systems.

> ➤ No real feeling of ownership.

> ➤ Overkill for small installations.

Model Based Approach

Market consensus indicates there is a need for a structured approach to Test Data Management.

- ➢ Single Test Bench environment
- ➢ Small Test Field
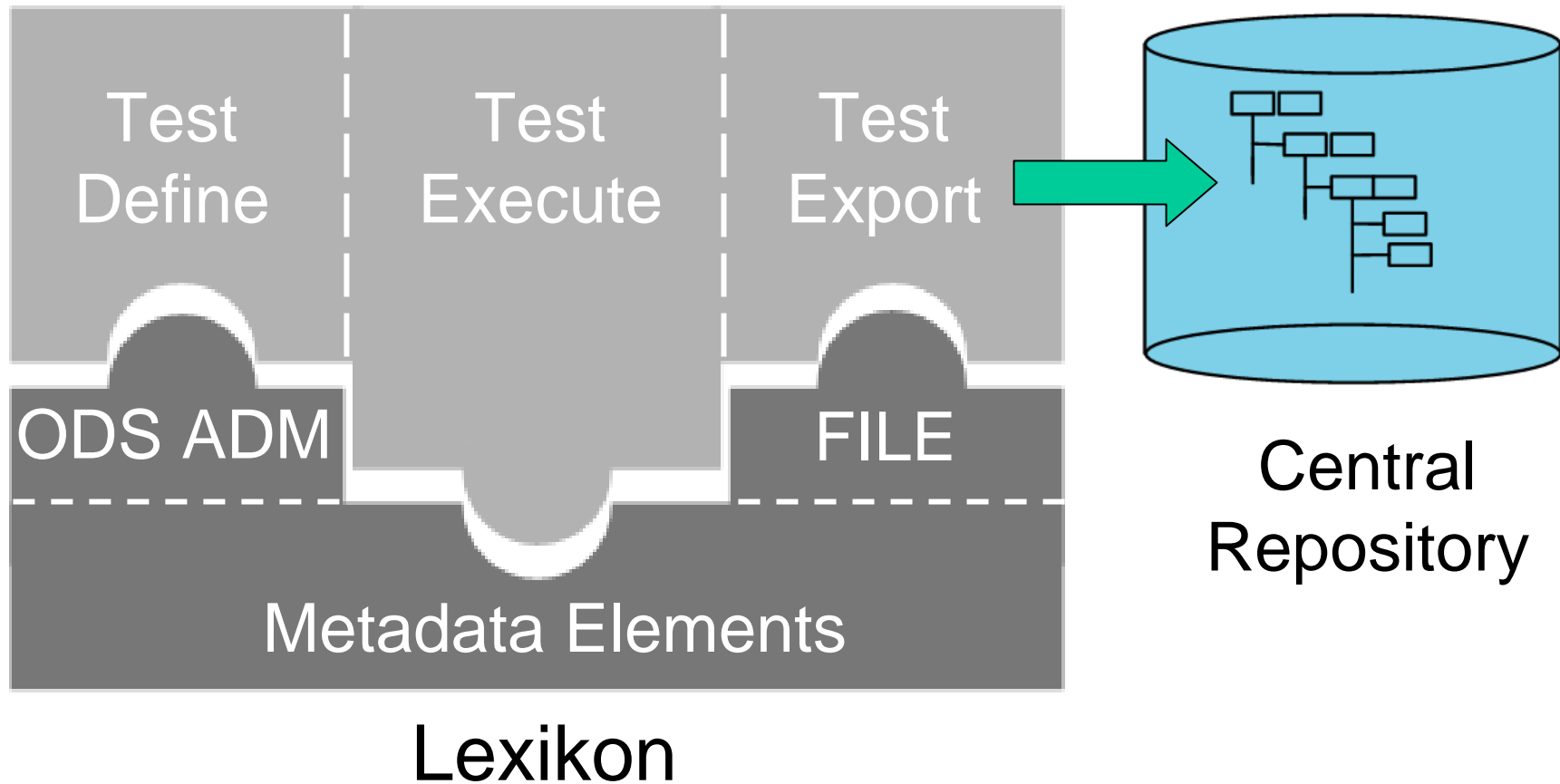- ➢ Coupled Test Fields

A consistent progressive solution is required that applies systems that are appropriate to the complexity of the problem.
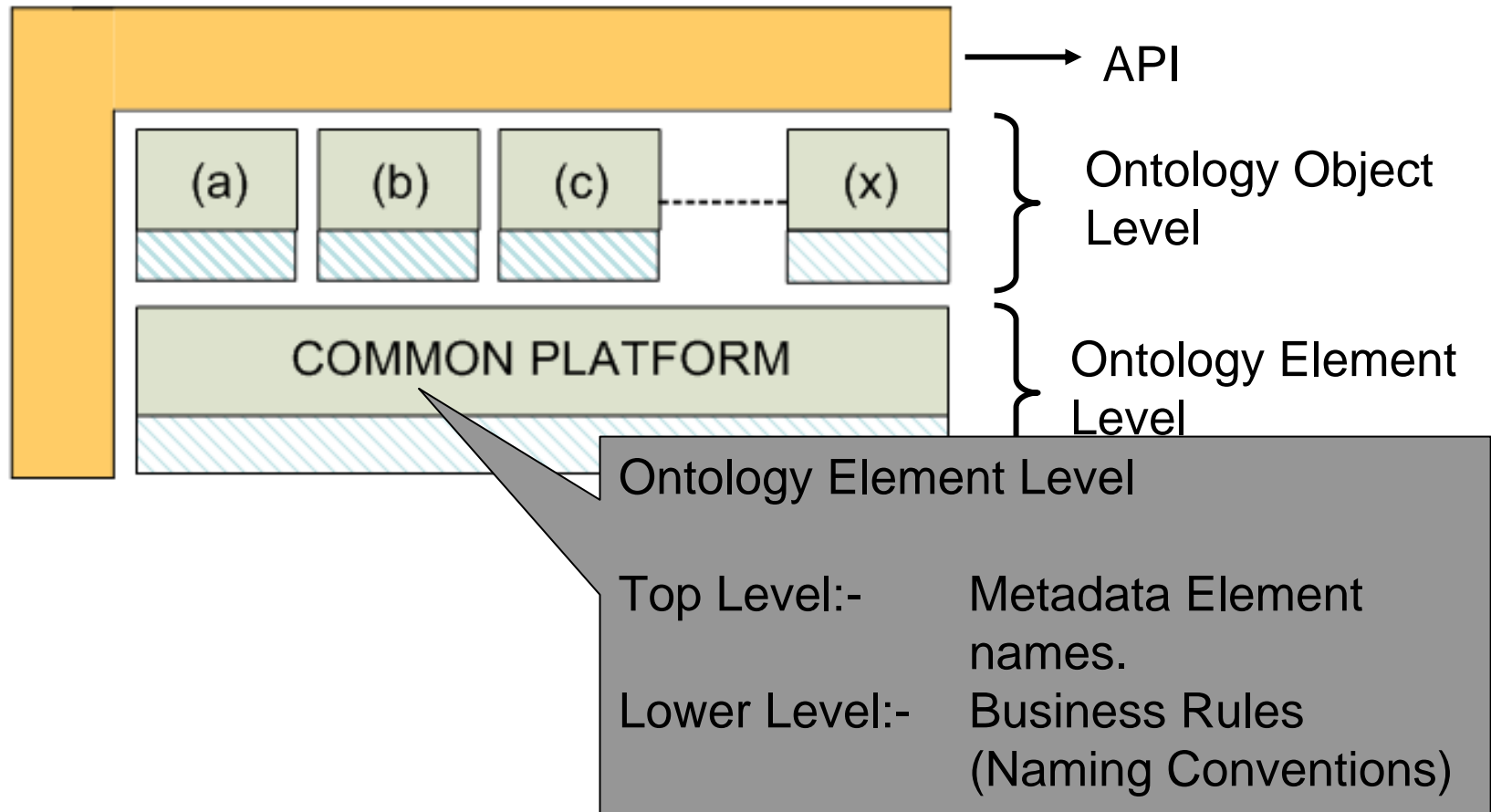
Uses 2 of the 3 constituent elements

1.   Application Data Models (derived from the Base Model)
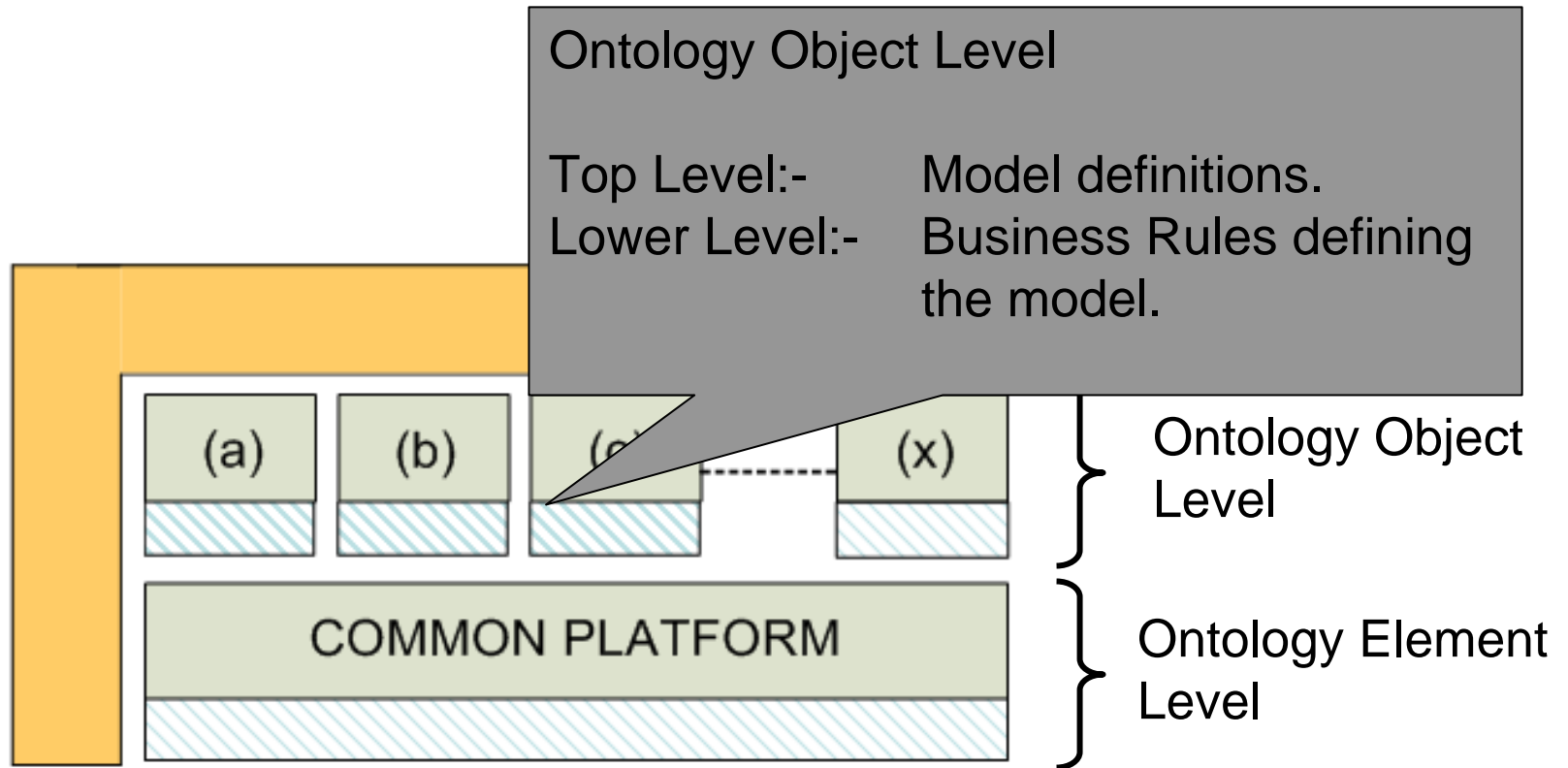2.   ATF Files

The Base Model is the most important element within the ODS Standard. It is from the Base Model that ALL Application Data Models should be derived.
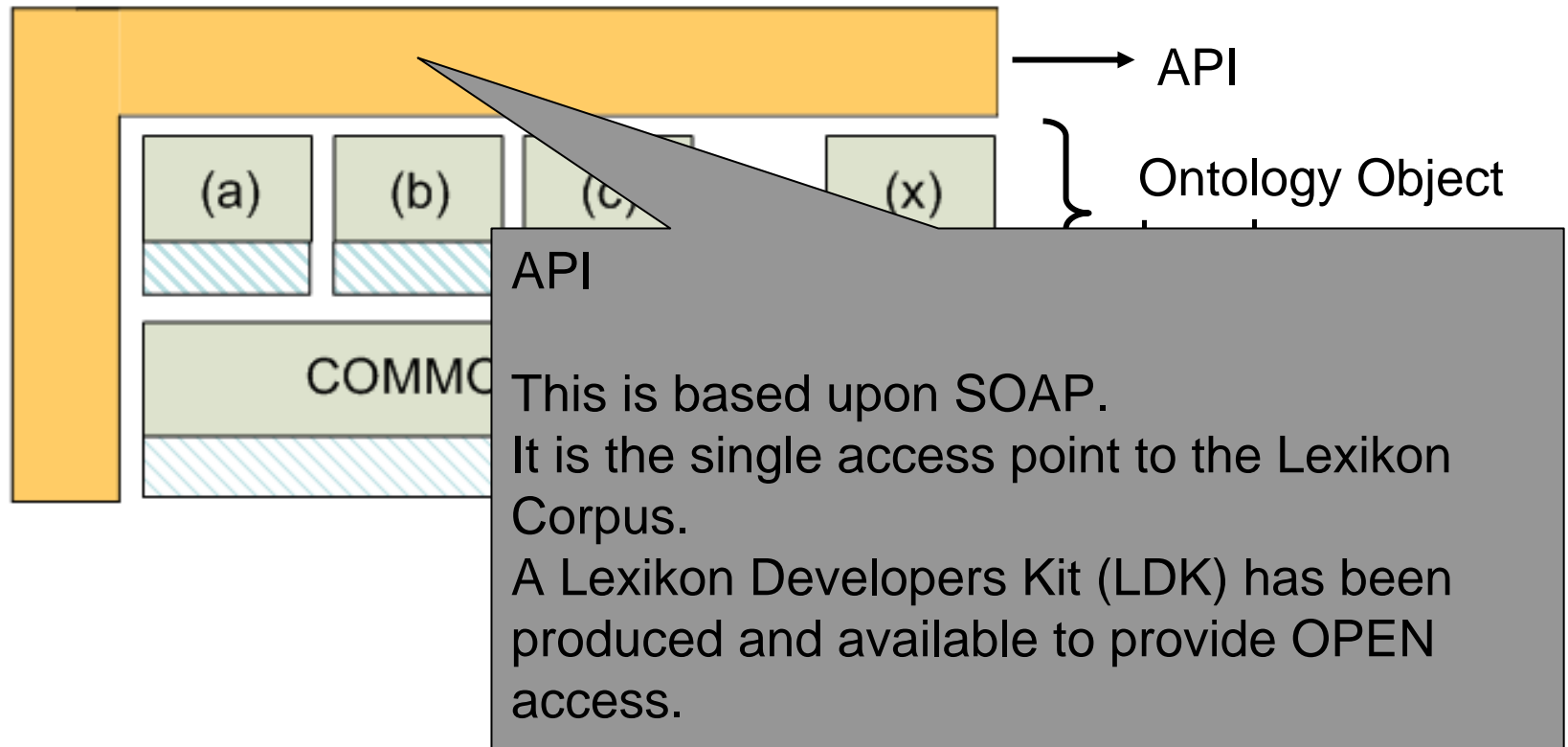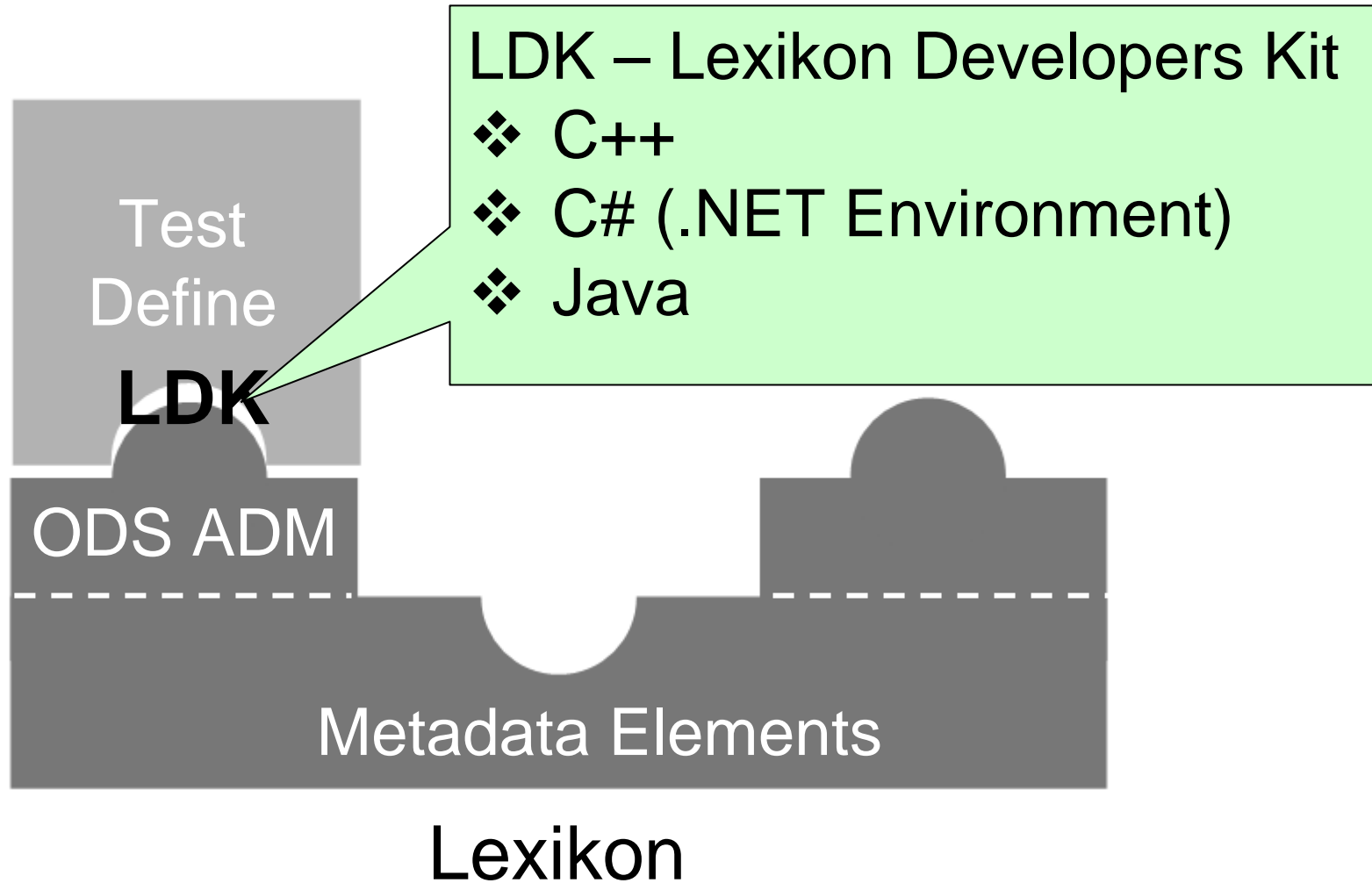
Test Equipment

Test Define

Test Execute

Test Export

ODS ADM

FILE

Metadata Elements

Lexikon

Central Repository

ODS-LITE : Identified Needs

➢ Need to exchange data between disparate system from different suppliers.

➢ One single Application Data Model would be inefficient for all the needs.

➢ Need to exchange data between stationary and mobile test systems.

➢ Solution needs to be enterprise wide.

➢ To obtain coherency, ideally, a single work surface should be derived for data exchange.

➢ To obtain data integrity a single logical enterprise wide solution is required.

➢ A common open API is required to integrate disparate systems.

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Service Environment - Lexikon

API

(a)　(b)　(c)　........　(x)

Ontology Object Level

COMMON PLATFORM

Ontology Element Level

Ontology Element Level

Top Level:-　　Metadata Element names.

Lower Level:-　Business Rules (Naming Conventions)

Service Environment - Lexikon

Ontology Object Level

Top Level:- Model definitions.
Lower Level:- Business Rules defining the model.

| (a) | (b) | (c) | ... | (x) | } Ontology Object Level |

COMMON PLATFORM } Ontology Element Level

Service Environment - Lexikon

API

Ontology Object

(a)　(b)　(c)　(x)

COMM[O]

API

This is based upon SOAP.
It is the single access point to the Lexikon Corpus.
A Lexikon Developers Kit (LDK) has been produced and available to provide OPEN access.

Test
Define

LDK

ODS ADM

Metadata Elements

Lexikon

LDK – Lexikon Developers Kit
- ❖ C++
- ❖ C# (.NET Environment)
- ❖ Java

Process Task Element – Closed Loop

Test
Define
LDK

ODS ADM

Metadata Elements

Lexikon

Data Exchange:-
Application Data Model
a) Metadata attributes
b) Parameter Names
c) Security information

Data Exchange:-
 a) Parameter Names
 b) Alias / Mapping Tables
 c) Security information

LDK

Metadata Elements

Lexikon
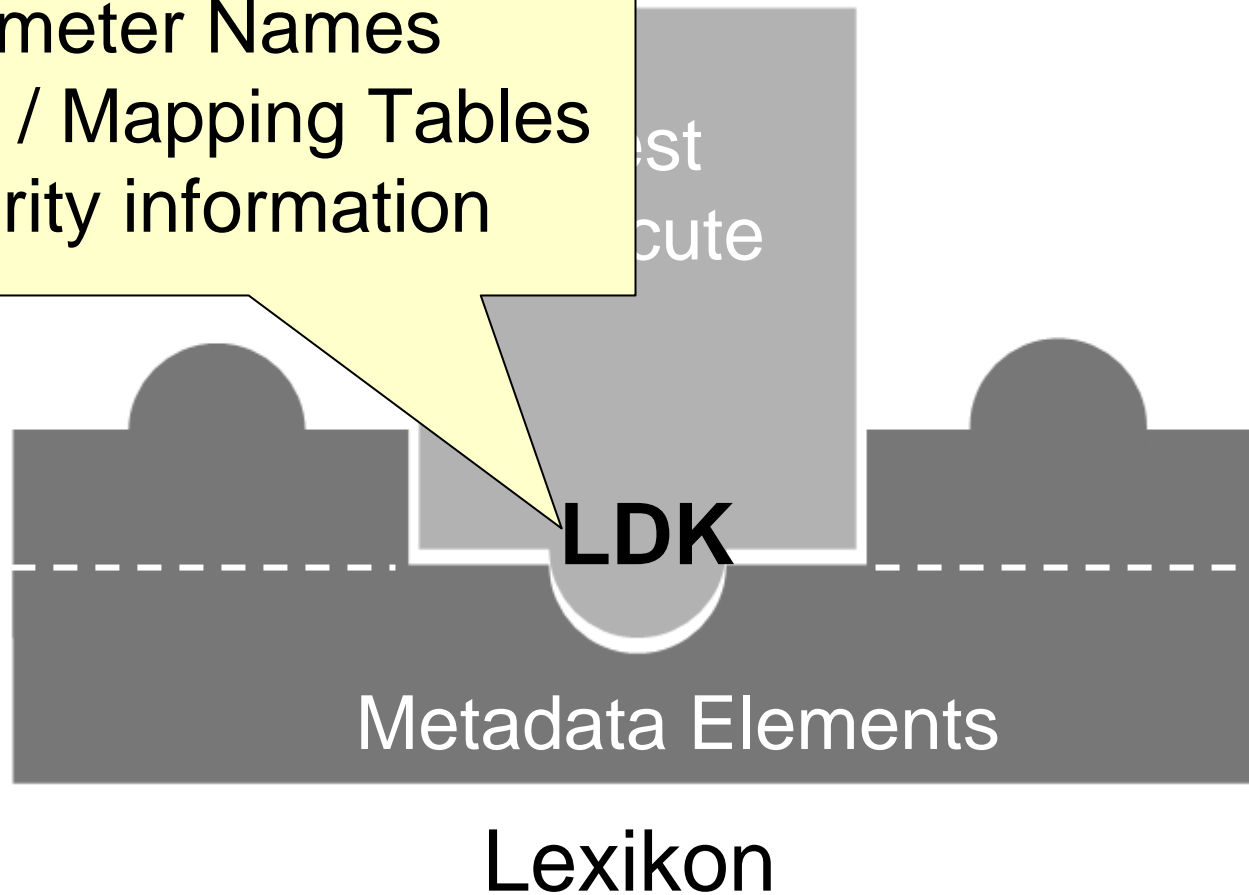
Process Task Element – Closed Loop

Data Exchange:-
Application Data Model
 a) Parameter Names
 b) Alias / Mapping Tables
 c) Security information
File Structure

LDK

Test
Export

FILE

Metadata Elements
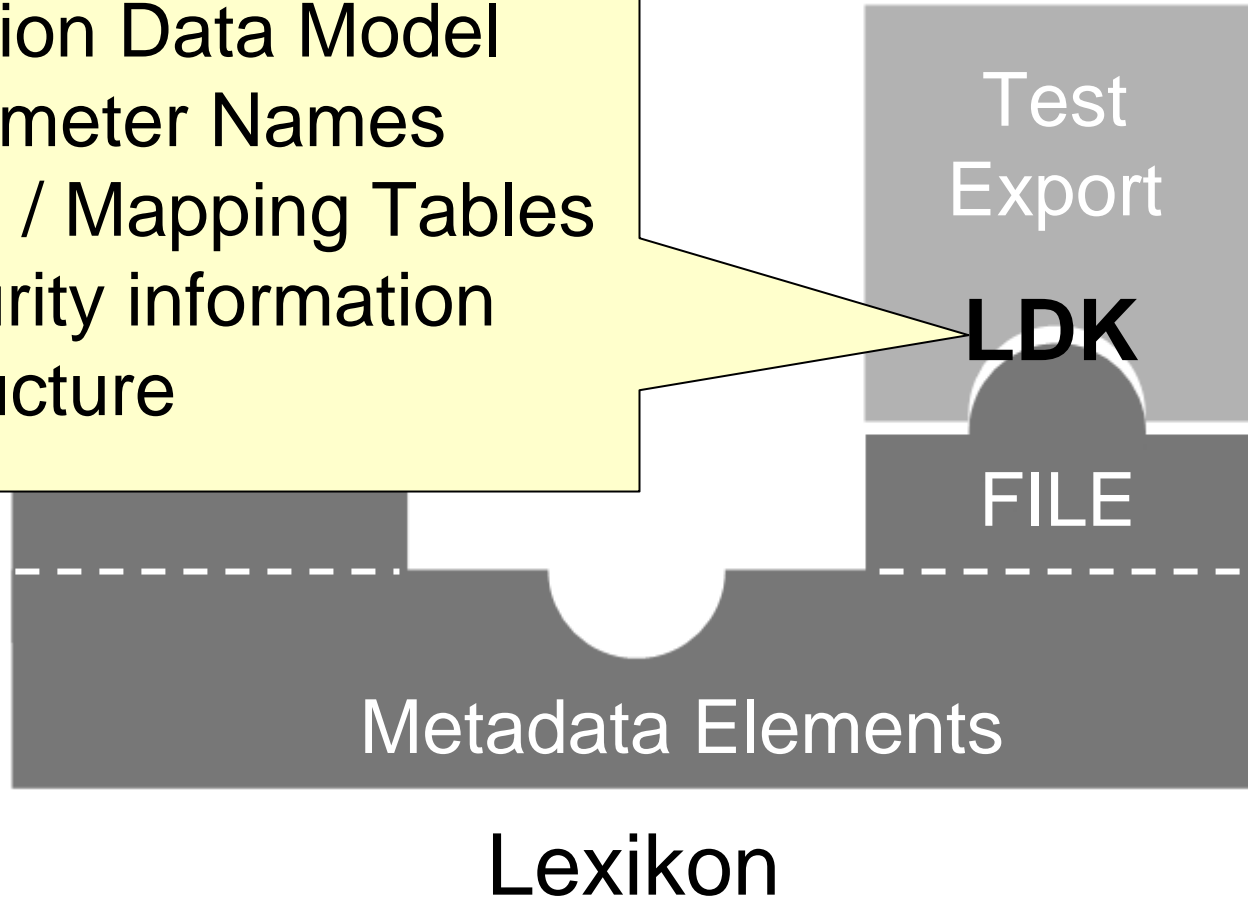
Lexikon

Open Loop – No Test Instigation

Data Exchange:-
Application Data Model
 a) Parameter Names
 b) Alias / Mapping Tables
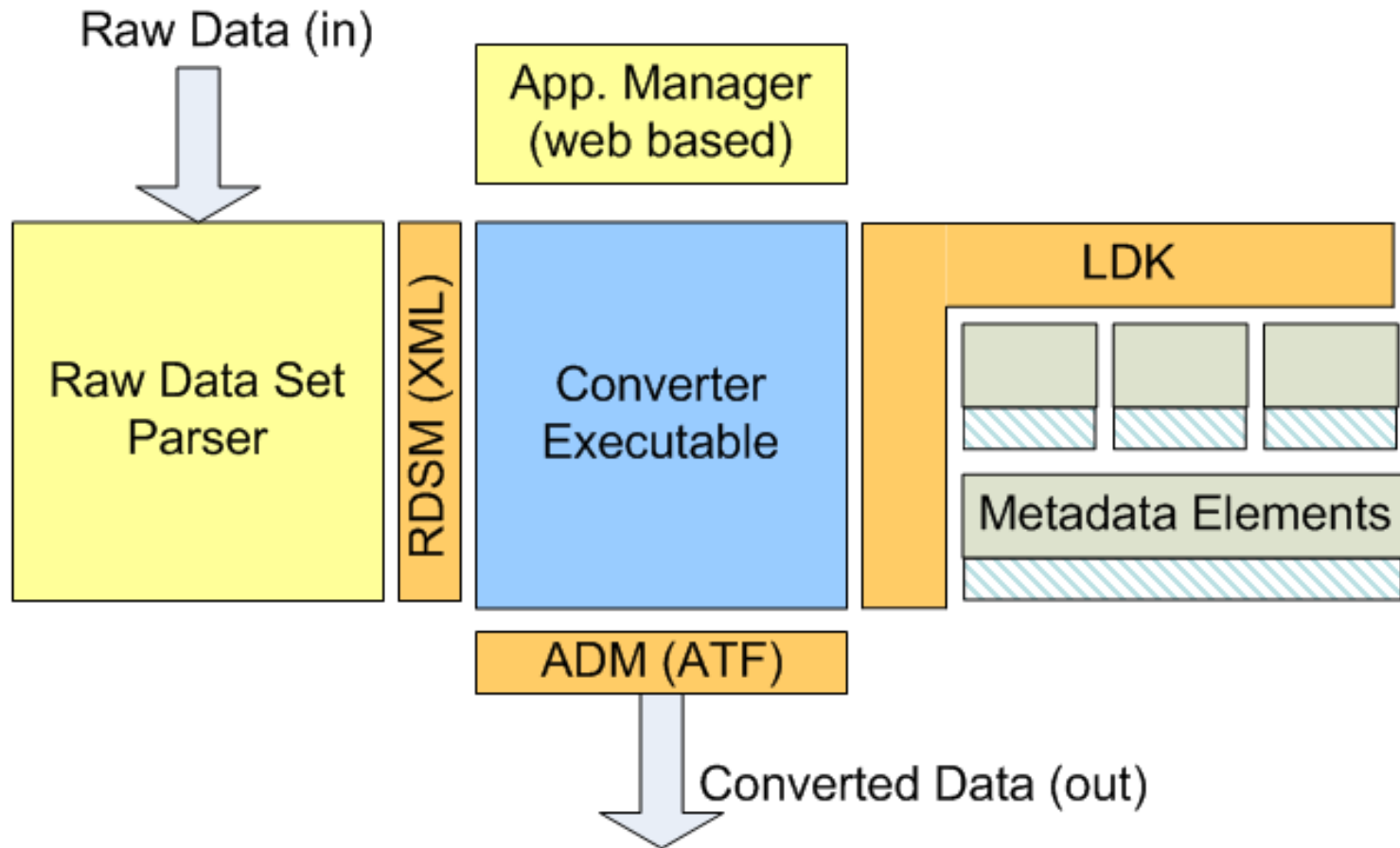 c) Security information
File Structure
Raw Data Set Model

Test Export

LDK

FILE

Metadata Elements

Lexikon

Application : Open Loop Converter

Relationship to ASAM Standards.

Lexikon	ODS Repository
<u>Definition</u> of the Application Data Model	<u>Instance</u> of the Application Data Model
Parameter Names	AoQuantity Object in Base Model
Naming Conventions	-
Units	AoUnit Object in Base Model
Raw Data Models	-
Equations	-
Business Rules	-

Relationship to ASAM Standards.

Lexikon	ASAM Standard
Device Capability Description contents	ASAM-GDI
Parameter Name Sets	ASAM-GDI
Diagnostic codes	ASAM-AE-MCD -2D
Template definitions	ASAM-CEA
Calibration codes / Service Objects	ASAM-ACI ASAM–AE-MCD-A2L
Test Objects	ASAM-GDI

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ODS-LITE Advantages

➢ Consistent homogenous environment, contents and context for Test Data Repository.

➢ Simple Enterprise wide search capability and data sharing – web-based solution

➢ Technology independent - (Windows or Linux)

➢ Product independent.

➢ Project / Data security.

➢ Defined API's

ODS-LITE – Summary

➢ Using Lexikon enables open extensible solutions.

➢ Capable of being applied to ODS + Legacy systems

➢ Ownership – Customer owns the process & the models.

➢ Modular; yet Enterprise wide solution.

➢ Open architecture

➢ Lexikon can be installed as site server (Test Beds) or single remote applications (vehicles)

➢ Can be installed as embedded service and other software provide work surface.

Conclusion

Thank you.

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