



ISSELNORD

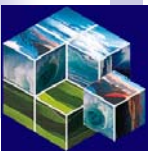
- Logistic Support Engineering
- Information Technologies
- Translations, Services & Training

S1000D & SCORM – Data Modules & Learning Objects The Advantages of Integration



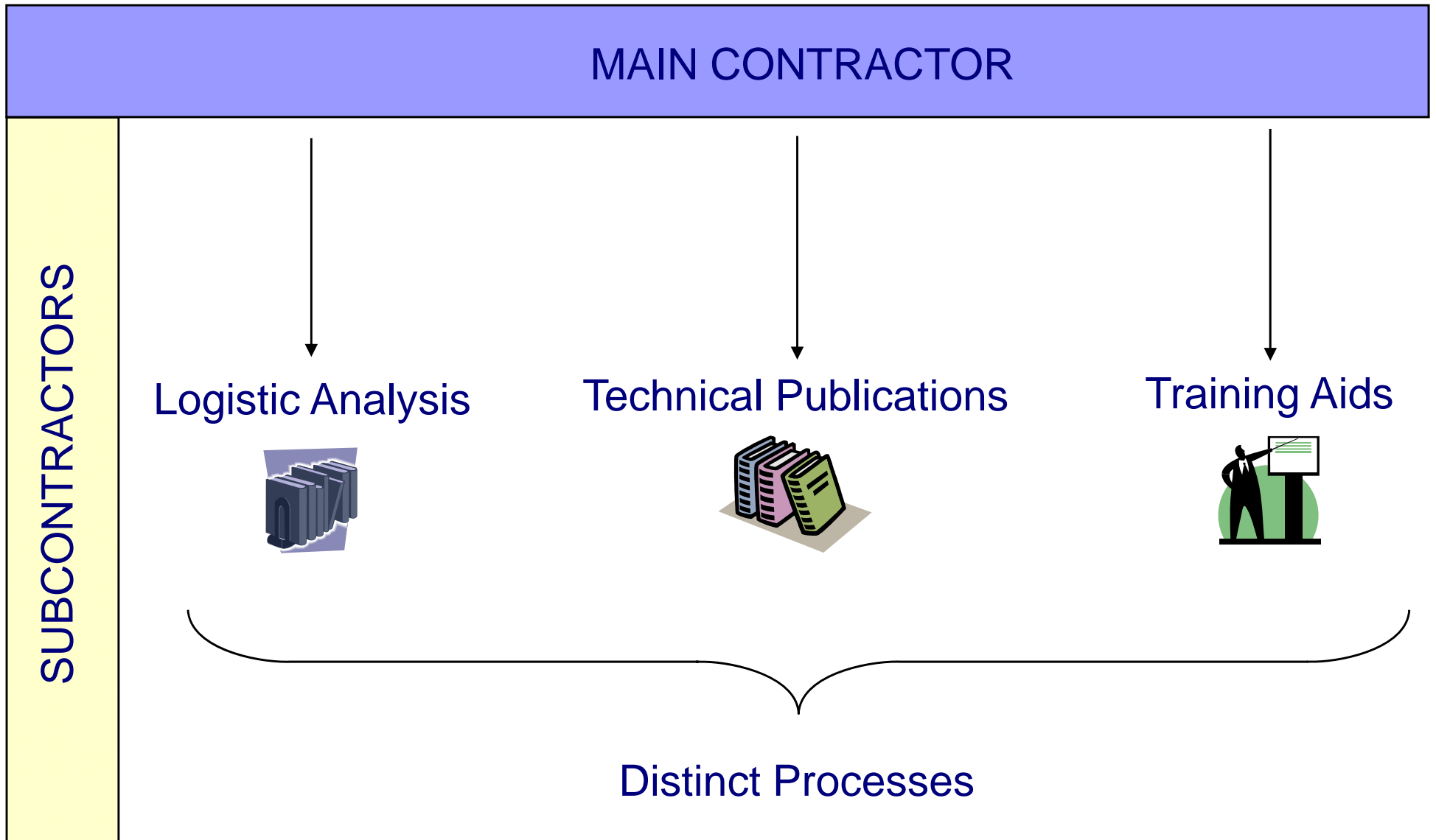
MAIN ACTIVITIES

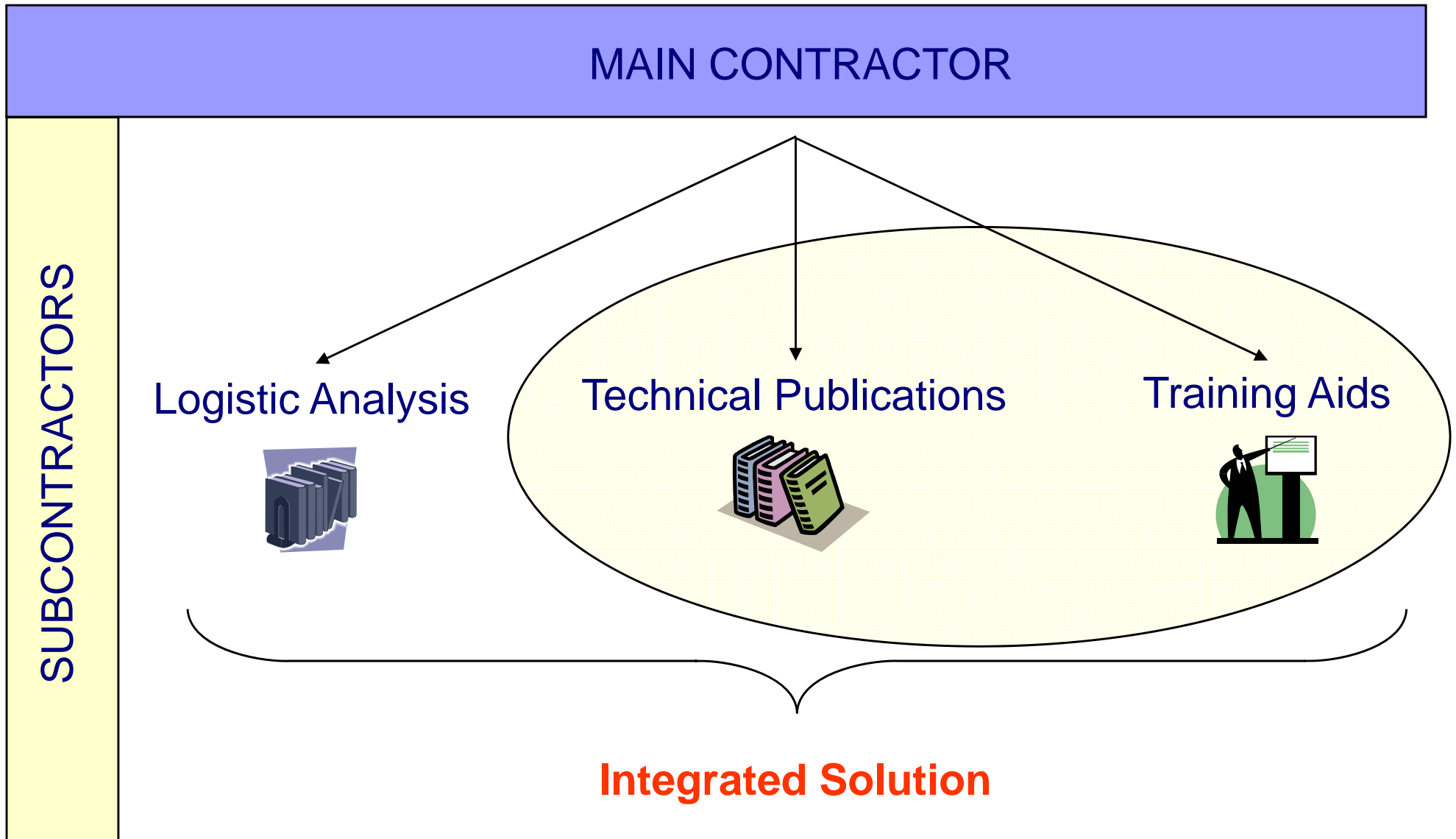
- ▶ Logistic Analysis
 - ▶ Technical Publications (XML, S1000D, etc.)
 - ▶ S1000D Viewing and Management Systems (CSDB)
 - ▶ Computer Based Training
 - ▶ Multimedia and Digital Content Creation
 - ▶ Maintenance Management Systems
 - ▶ Translation Services
-

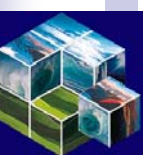


TOPICS

- ▶ Technical publication and Training Manuals: advantages of an integration
- ▶ S1000D/SCORM common characteristics
- ▶ Project Overview: SIMPLICIO
- ▶ Main Technical Issues
- ▶ Conclusions







FROM S1000D TECHNICAL PUBLICATIONS TO SCORM TRAINING MANUALS

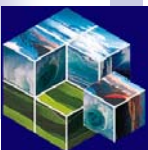
Two different standards can be applied to Technical Publications and Training Manuals.



S1000D



SCORM



FROM S1000D TECHNICAL PUBLICATIONS TO SCORM TRAINING MANUALS



S1000D characteristics

Modularization of the publications (**Data Modules**)

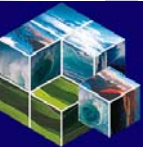
Data Modules **Reusability (WORM)**

Content traceability and **management** during all the **life cycle**



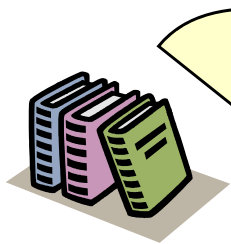
SCORM characteristics

- ▶ **Modularization** of the training information (**Learning Objects**)
- ▶ Learning Objects **Reusability (WORM)**
- ▶ **Content traceability** and **management** during all the **life cycle**



FROM S1000D TECHNICAL PUBLICATIONS TO SCORM TRAINING MANUALS

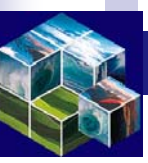
Applying SCORM to an existing S1000D publication could:



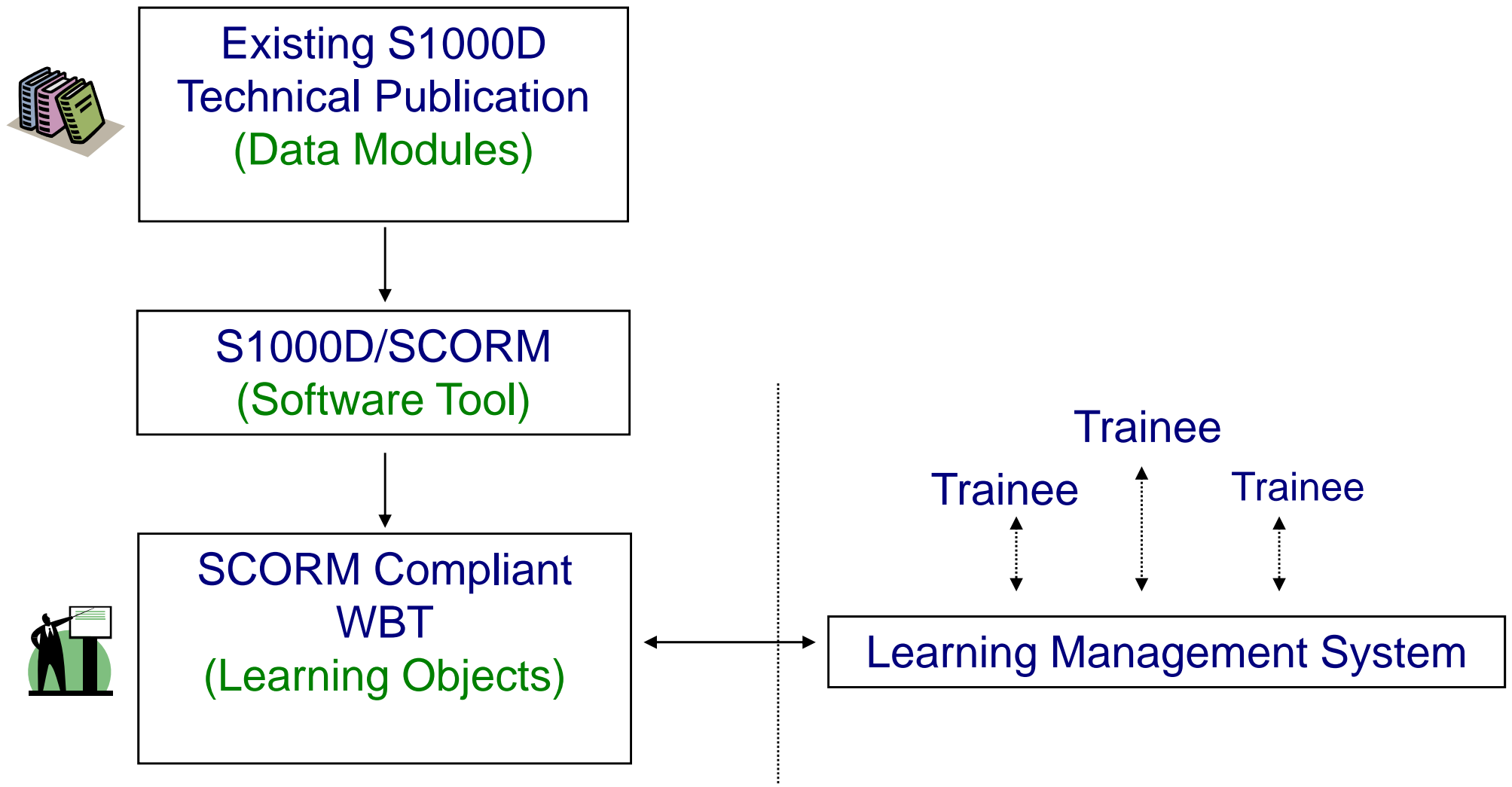
Improve the Technical Publication and Training Manual management during the life cycle (Misalignment, changes Management)

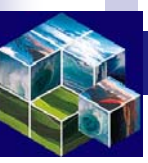


Obtain a Training Manuals by means of a rapid, cost/effective process

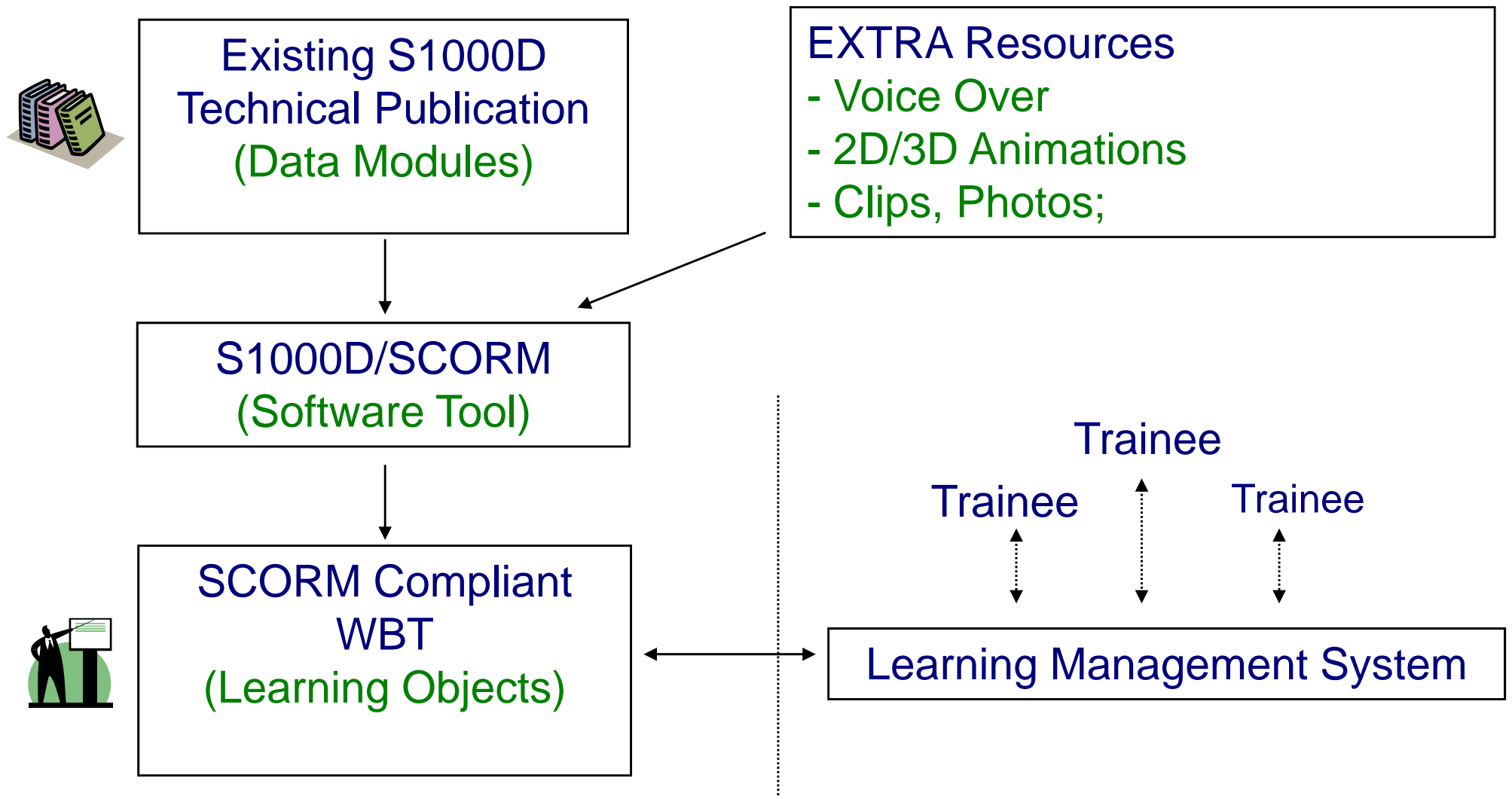


FROM S1000D TECHNICAL PUBLICATIONS TO SCORM TRAINING MANUALS





FROM S1000D TECHNICAL PUBLICATIONS TO SCORM TRAINING MANUALS





In order to study and possibly develop this integrated solution, in 2006 ISSELNORD decided to start up a new research and development project called SIMPLICIO.



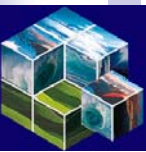
The main expected results from SIMPLICIO are:

- ▶ The optimization of the production process
- ▶ Share the same Common Source Database for both Technical Publication and Training Manuals;
- ▶ Documentation life cycle management;
 - ▶ Changes management;
 - ▶ Applicability management;
 - ▶ Configuration management;



WHERE WE ARE

- ▶ S1000D Module;
 - ▶ S1000D Project Management up to release 2.3;
 - ▶ Data Modules Management;
 - ▶ Publication Management;
 - ▶ Applicability Management;
- SCORM Module;
 - Learning Objects Management;
 - Extra Resource Management;
 - Training Courses Packaging and delivery;
 - Changes Management;



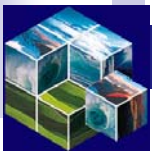
NEXT DEVELOPMENT WILL INCLUDE:

- ▶ S1000D Module;
 - ▶ Repository Modules;
 - ▶ New S1000D 3.0 features;
- ▶ SCORM Module;
 - ▶ Applicability Management
 - ▶ SCO Module?
 - ▶ Storyboarding ?
- ▶ LSAR Interface;



MAIN TECHNICAL ISSUES

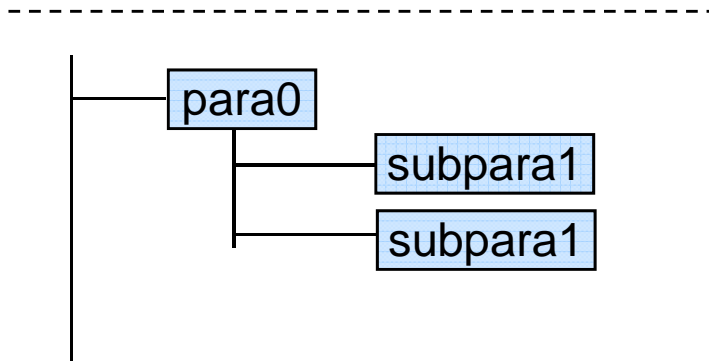
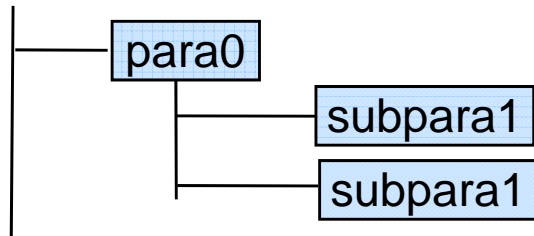
- ▶ How to link Learning Objects content with Data Modules content ?
- ▶ How to create the SCO ?
- ▶ How to reflect data modules changes in learning objects content ?
- ▶ How to manage extra resources ?
- ▶ How to manage Data Modules multimedia information in Learning Objects Content ?
- ▶ How to manage Data Module external reference in Learning Objects Content ?



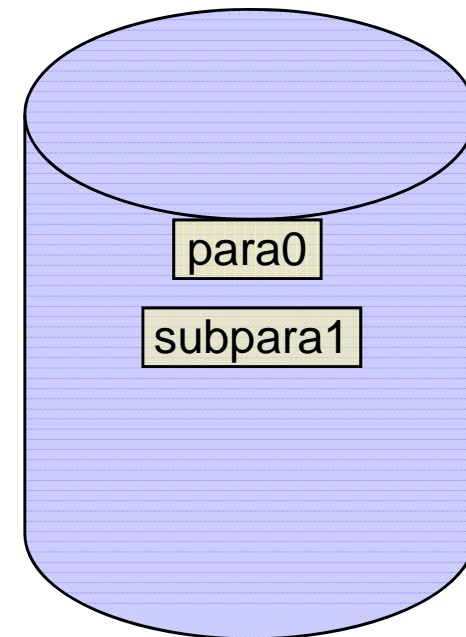
How to link Learning Objects content with Data Modules content

Learning Objects content can consist of a set of one or more S1000D Data Module portion (S1000D tags).

Data Modules



Learning Object



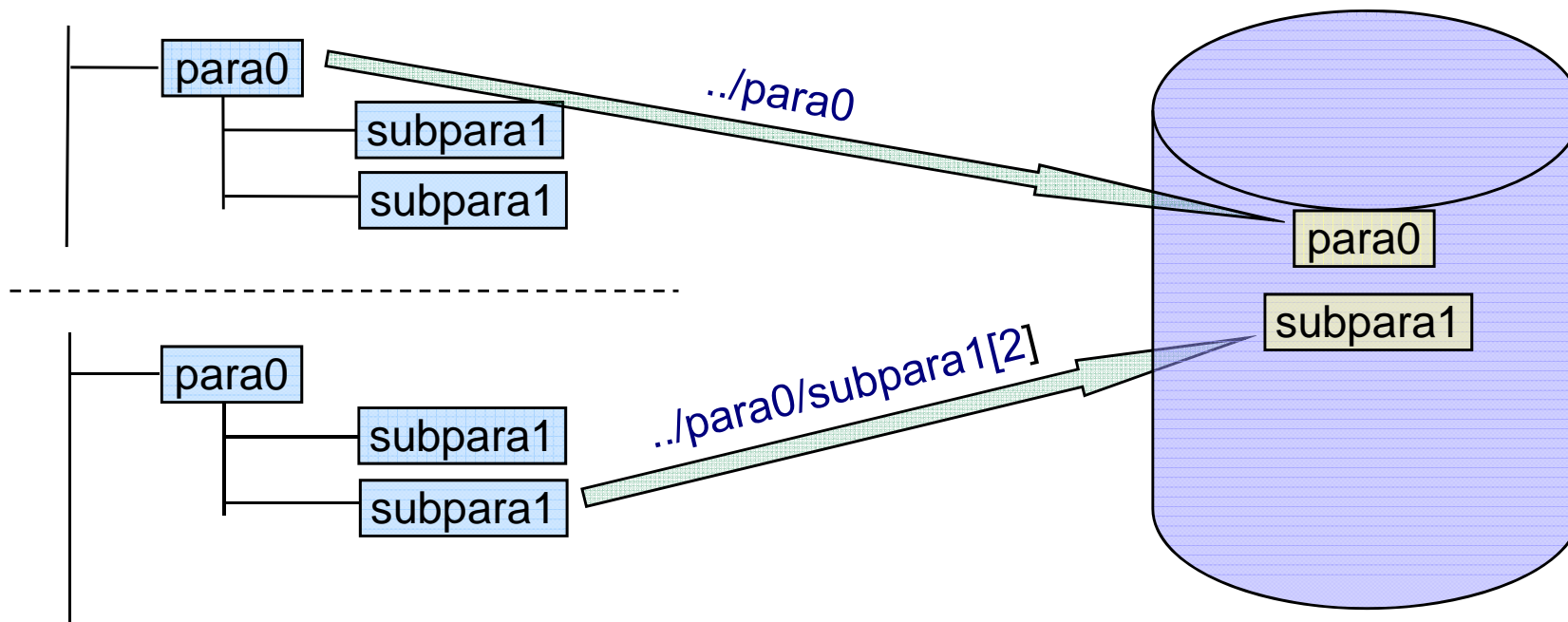


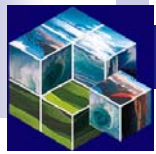
How to link Learning Objects content with Data Modules content

In order to extract the content from Data Modules and to maintain traceability of the extraction, the XPATH standard has been used.

Data Modules

Learning Object



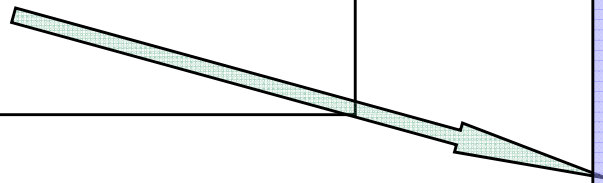


? How to manage extra resources

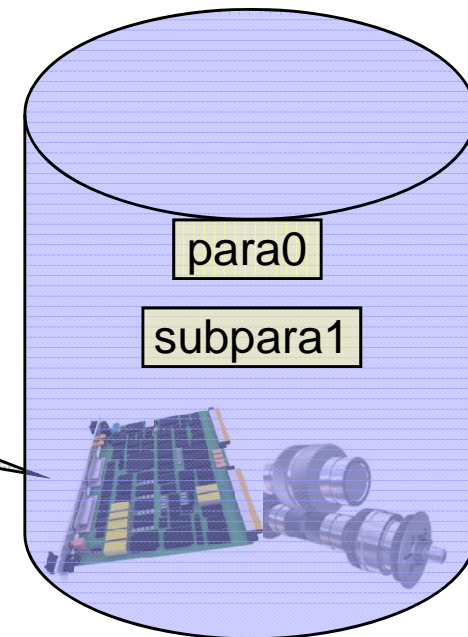
Extra resources can be linked to any XPATH of Learning Object and are automatically codified by the system.

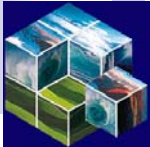
The different types of extra resources which can be used are:

- Audio
- Images
- Animations
- Video;
- 3D Modeling.



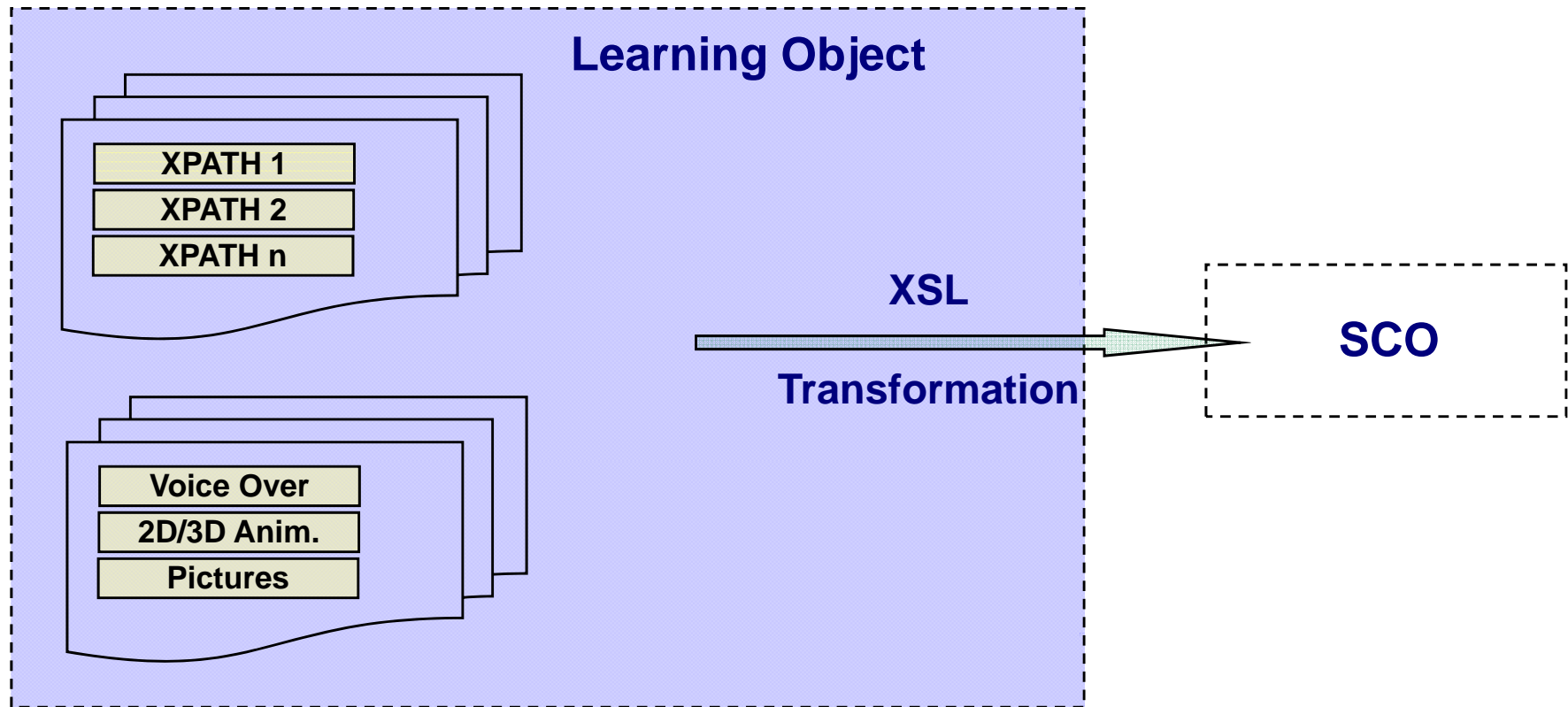
Learning Object





? How to create the SCO

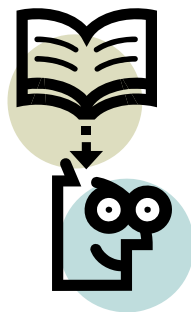
SIMPLICIO



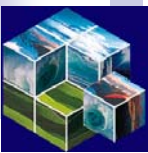


How to reflect data modules changes in learning objects content

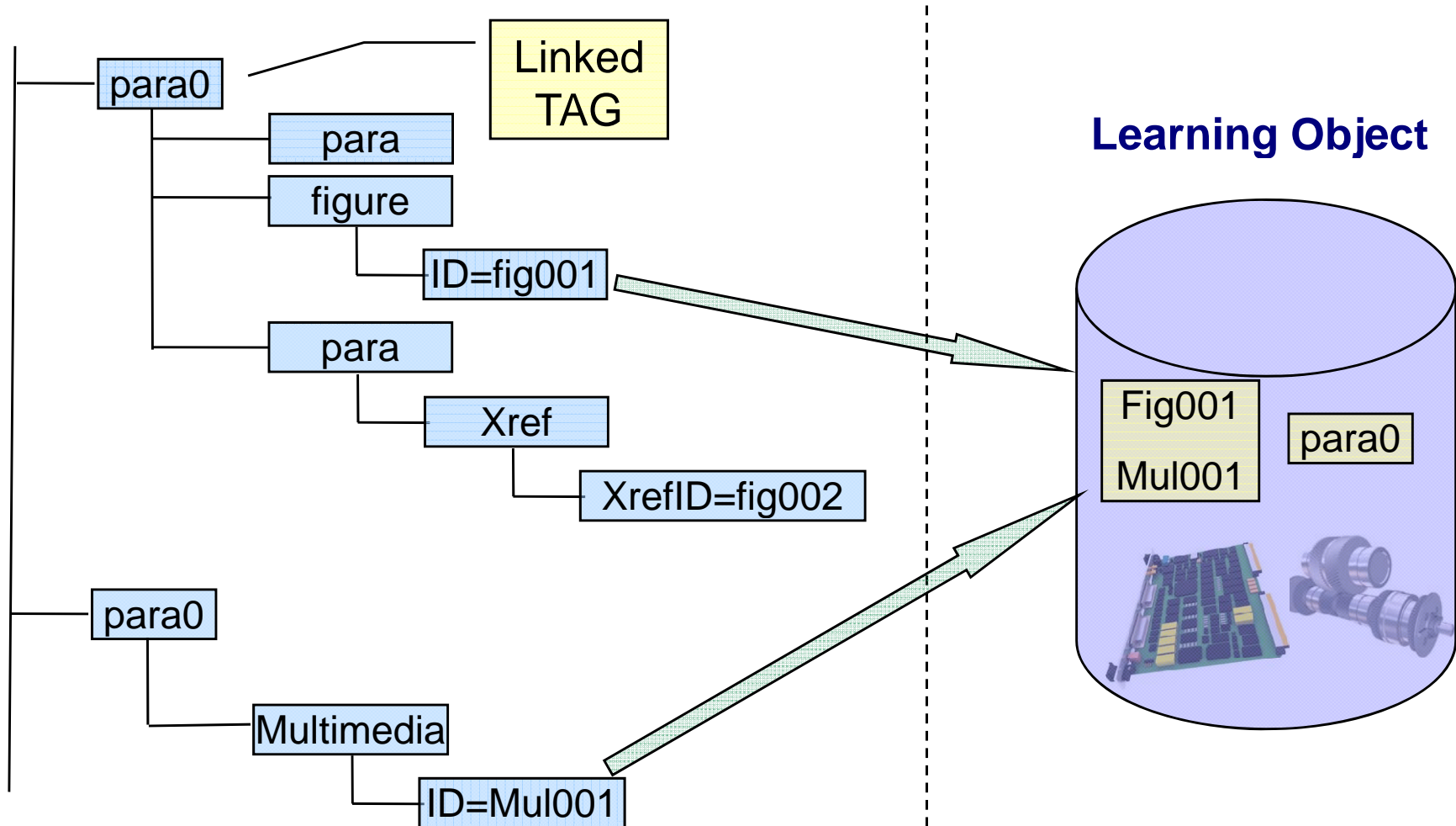
Our idea is not to automatically reflect changes in Learning Object content when new issues of the referred Data Modules are delivered.



authors are provided with a set of features giving all the information about the changes, in order to support the identification of the best action to be done.



How to manage Data Modules illustrations in Learning Objects Content

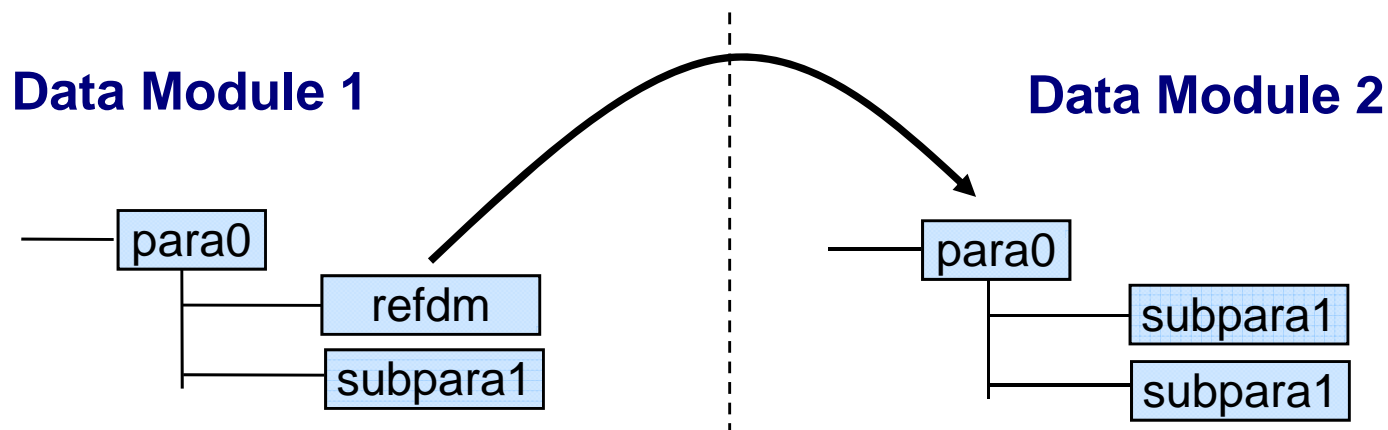




How to manage Data Module external reference in Learning Objects Content

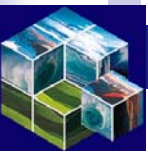
This is an open problem. We are investigating on two possible solutions:

- ▶ To skip external references informing the author of their existence (lack of coherency risks)
- ▶ To solve the external references by automatically linking the referenced data modules (circularity risks)





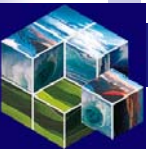
SIMPLICIO PREVIEW



CONCLUSIONS

Main advantages to point out:

- ▶ Technical Publication and Training aids content coherency;
- ▶ Technical content reusability in different context;
- ▶ Technical Publication and Training aids integrated configuration management:
 - ▶ Applicability;
 - ▶ Changes management;
 - ▶ Life Cycle Management;
- ▶ Development costs reduction;



CONCLUSIONS

- ▶ Some aspects need to be investigate;
- ▶ A first integrated solution is going to be delivered;



THANK YOU

<http://simplicio.isselnord.it>

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