

# Identifying Learning Objects and their Locations

David Massart\* <david.massart@eun.org>

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The CeLeBraTe (Context eLearning with Broadband Technologies) project is developing a system to support a European Learning Network (ELN) of virtual learning environments (VLEs) capable of exchanging digitally-stored learning objects (LOs). The ELN is built around a Brokerage System (BS) that manages exchanges between its members. VLEs use an “ELN Client” to connect to the BS. This ELN Client hides the complexity of the VLE-BS communication behind a simplified API that lets VLEs focus on the content of messages (e.g., a query or metadata) without having to worry about the lower-level details of message exchanges. In order for the BS to support LO exchanges (as defined in [1]), it is necessary to uniquely identify LOs and their locations within the network.

The elements that must be taken into account in such an identification are:

**<loProviderId>** The different LO providers (DigitalBrain, Sanoma WSOY, GiuntiLabs, the Demo Portal) need to be identified by the BS. This identifier is attributed by the ELN Administrator when the provider registers its first VLE.

**<elnClientId>** The relation of each ELN Client instance with the BS is defined in a separate contract. Each ELN Client instance corresponds to a different VLE instance. Each LO provider can run several VLE instances each of which must be identified. This identifier is attributed (by the ELN Administrator) to each new ELN Client instance when the provider registers it.

**<loId>** It is necessary for each LO provider to identify its LOs. This identifier is freely attributed by each LO provider to each LO it makes available in the ELN.

In order to identify LOs and their locations, we propose to use elements LOM 1.1 (general.identifier) and LOM 4.3 (technical.location) the following way:

**LOM 1.1: General.Identifier** This element is composed of 2 sub-elements: 1.1.1 Catalog and 1.1.2 Entry. The catalog is identified by `eln`, whereas the entry is the composition of the LO provider Id and the LO Id separated by a colon.

Nr	value	Example
1.1.1	eln	eln
1.1.2	<loProviderId>:<loId>	digitalbrain:1412
		demoportals:hjkw112

**LOM 4.3: Technical.Location** This element is composed of a prefix `eln`, an LO provider Id, and an ELN Client Id separated by colons.

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\*European Schoolnet Office, rue de Trèves 61, B-1040 Brussels, Belgium.

<b>Nr</b>	<b>value</b>	<b>Example</b>
4.3	eln:<loProviderId>:<elnClientId>	eln:digitalbrain:test
		eln:demoportal:01

## References

- [1] J.-N. Colin and J. Simon. Authentication, authorisation, and rights management for the CELEBRATE brokerage system. Celebrate Deliverable D 3.3 part B (IST-2001-35188). Also available as [http://braveheart.eun.org/~david/celebrate/documents/D3\\_3\\_Part\\_B.pdf](http://braveheart.eun.org/~david/celebrate/documents/D3_3_Part_B.pdf), May 2003.