Getting Started with Learning Record Store (LRS) Integration

Allego provides an innovative approach to boosting performance for a distributed sales team by using their tablets, laptops or smartphones and Cloud services to create and share valuable ideas in video form. This solution has helped numerous companies (including many from heavily regulated industries) to provide coaching, training and best practices libraries.

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INTRODUCTION TO ALLEGO LEARNING RECORD STORE (LRS) INTEGRATION

This document is for Allego Project Leads, Training Executives, or IT Systems Integration Specialists, to aid in deciding whether to use LRS integration, and then to help with kicking off the integration effort. The ultimate goal of Allego LRS integration is to **capture a comprehensive employee learning transcript inside your LRS, within which Allego learning activities may only be a small portion of the tracked data.** While Allego does deliver out-of-the-box reports, we love to empower customers to report in analytics solutions of their choosing.

If you are unsure whether your company can use Allego's LRS Integration, please see [What is an LRS](#) and [Frequently Asked Questions](#) in this document.

Allego is able to record learning statements into LRSs so that we enable companies to have a comprehensive view of the effort their employees are putting in to skill development. For example, if an employee views instructive videos, or completes a recording exercise and scores well, or completes a video quiz, all of those items should be logged to the LRS.

When Allego's LRS integration is used, **employees will see absolutely no difference in their user experience** as they create recordings, complete exercises, complete quizzes, and consume flash drills. However, trainers and data analysts will be able to rely on up-to-date records in their Learning Record Store to power reporting and analysis, or integration of the data with other systems like HR or CRM solutions.

BACKGROUND ON LEARNING RECORD STORES

Traditional Learning Management Systems (LMS) have one disadvantage: their inability to track learning that takes place outside of the LMS environment. This made it difficult to measure the return on investment (ROI) of training programs that utilize many modes of engagement. Over time, a standard emerged and the job of data storage was carved out of LMSs into separate or integrated Learning Record Stores.

learning record store (LRS)
A system that stores learning records, allows reporting against the records, and allows for exporting of raw learning data. Companies use a Learning Record Store to gather data of an individual's learning history from many different sources, like LMSs, real world team-building exercises, and native mobile applications.

In the past, with some LMS software when training was completed outside of the LMS, an LMS administrator would have to add the training to the LMS transcript for the employee in question. In other LMS's, the employee would have to manually log the fact that they learned something outside of the eLearning software. The use of an automated process that writes to the LRS is a great improvement to user experience and training optimization capabilities over the old methods.

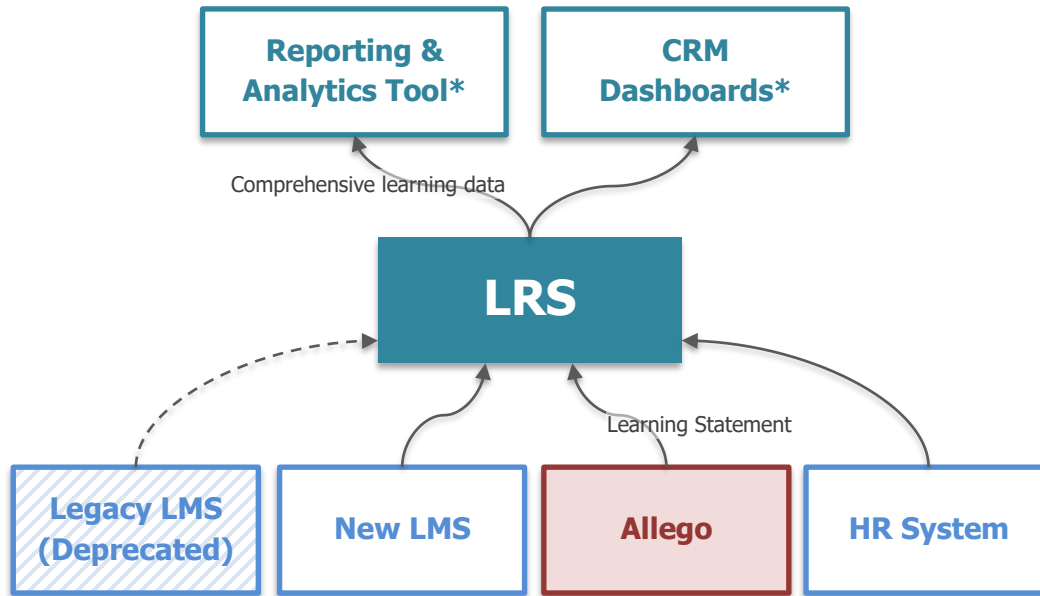The following diagrams depict an LRS integrating with various learning an reporting products.

Figure 1. A stand-alone LRS in a typical enterprise environment.
In this configuration, components that deliver learning experiences can be
augmented or replaced over time, but the employee transcripts are never lost.
*Compatibility with reporting and CRM tools may vary depending on the LRS vendor
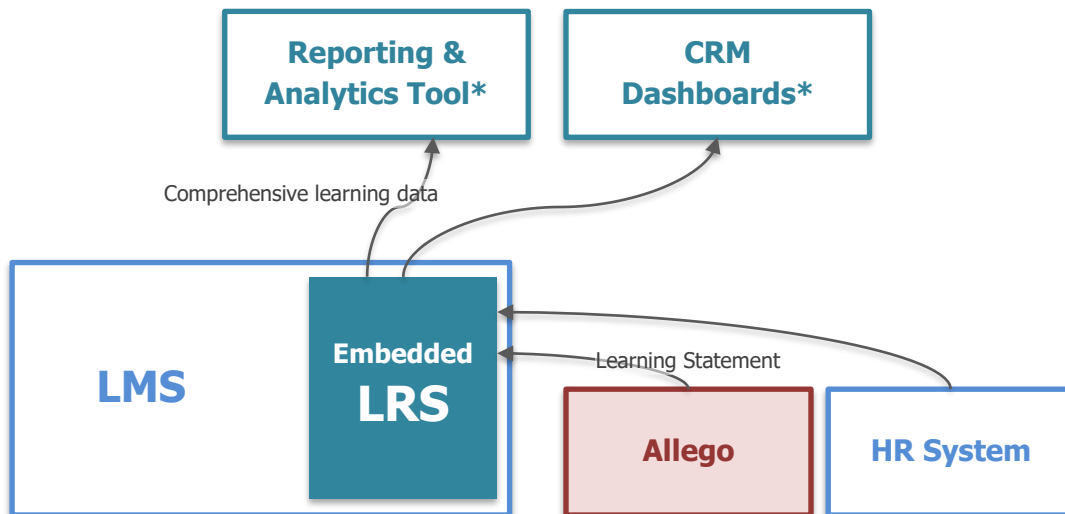
Figure 2. An LRS offered inside an LMS in a typical enterprise environment
This configuration may be simpler to adopt at first, but may become difficult to
manage over time as components evolve, are augmented, or are replaced.
*Compatibility with reporting and CRM tools may vary depending on the LRS vendor

Once data is stored in the LRS, statements can be retrieved and put to various analytical uses, including controlling what happens in adaptive content and learning data mining and analytics, finding negative and positive correlations, and discovering what experts and novices do differently. An LRS is not, however, a

replacement for an LMS or a learning platform, as those have their own capabilities for delivering training and content to employees in engaging ways.

BACKGROUND ON THE "xAPI STATEMENT" STANDARD

All information is logged into any LRS exclusively using xAPI Statements. The overall xAPI (Experience Application Programming Interface) standard provides a way to create flexible, semantically-defined statements about a person's activity. This simple guide outlines the anatomy of an xAPI statement.

An xAPI statement consists of the following:
<actor/learner> <verb> <object>, with <result>, in <context>.

xAPI statements will also typically include a timestamp, and information about the system that is sending the statement to the LRS. xAPI statements are written in JavaScript Object Notation Language, which is similar to XML. Each statement is a simple construct to track a single atomic aspect of a learning experience. A set of several statements may be used to track complete details about an end-to-end learning experience.

The xAPI statement notation in this document is formatted based on JavaScript formatting conventions, and annotated with human-readable equivalents. Please see the Sample Allego xAPI Statements for examples.

FIRST STEPS FOR SETUP WITH YOUR LRS

Before you begin, please check with your LRS vendor to get their **xAPI Integration Guidelines**. Alternatively, you may have to work with the vendor directly in order to obtain the necessary information.

Once you have the following, you will need to provide it to your Allego Customer Success manager:

1. The **URL for your company's LRS service**. This must be accessible via the public Internet via HTTPS. It may look like the following: `https://mycompany.waxlrs.com/TCAPI`
2. A **test account login name and password** for Allego to use when it contacts the LRS (optional)
3. A **production account login name and password** for Allego to use when it contacts the LRS
4. The **name of the employee attribute** that represents the employee's unique identifier. By default, Allego will pass the employee's business email address.
   a. Be sure to confirm with your LRS vendor that records from Allego and records from other system will be attributed to a single employee if we use email address as an identifier.
5. The **selection of available Allego learning statements** that you want to receive in your LRS
   b. Select one or more of the examples below

In response, Allego may schedule a meeting for Q&A and begin the integration process. **If no special customization is required, it should take approximately 2 to 5 business days after this meeting for Allego to send the first test calls to the provided URL with the provided credentials.**

You should not need to write any custom code or set up special network configurations in order to simply track Allego learning statements inside employee transcripts in your LRS. This basic integration is meant to be an easy-to-use out-of-the-box feature of Learning Record Stores.

SAMPLE ALLEGO xAPI STATEMENT: EXERCISE REPLY HANDED IN

<actor>	*<verb>*	*<object>*
"Bob Williams	completed	'Watch & Record: New Pitch Certification.'"

The above statement is represented as the following xAPI object in JSON notation:

```
{
    "id": "18ff5ae1-ab3d-421a-a672-4deb3fc716b9",
    "actor": {
        "name": "Bob Williams",
        "mbox": "mailto:bob.williams@mycompany.com",
        "objectType": "Agent"
    },
    "verb": {
        "id": "https://my.allego.com#completed",
        "display": {
            "en-US": "completed"
        }
    },
    "object": {
        "id": "https://my.allego.com#completed_37338",
        "definition": {
            "name": {
                "en-US": "Watch & Record: New Pitch Certification"
            },
            "description": {
                "en-US": "Exercise to certify all reps on the updated pitch."
            }
        },
        "objectType": "Activity"
    },
    "timestamp": "2017-01-23T22:00:40.000Z",
    "stored": "2017-01-23T22:00:40.883Z",
    "authority": {
        "name": "AllegoAPIServer",
        "account": {
            "homePage": "http://cloud.scorm.com/",
            "name": "OBjWuuY2u_7m9W4KVXE"
        },
        "objectType": "Agent"
    },
    "version": "1.0.0"
}
```

SAMPLE ALLEGO xAPI STATEMENT: EXERCISE REPLY SCORED

<actor>	*<verb>*	*<object>*	, with	*<result>*
"Tom S.	received scores	from Mary J. on '90sec Intro'	with	4.0 of 5 stars (80%)."
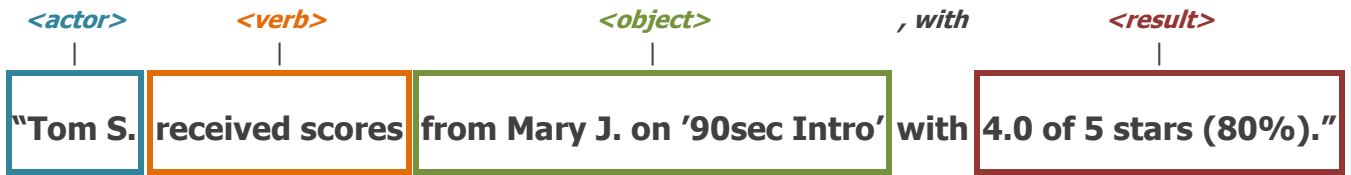
The above statement is represented as the following xAPI object in JSON notation:

```
{
    "id": "a62669e6-ea20-4307-b46f-383fa7c522e3",
    "actor": {
        "name": "Tom Smith",
        "mbox": "mailto:tsmith@mycompany.com",
        "objectType": "Agent"
    },
    "verb": {
        "id": "https://my.allego.com#scoreReceived",
        "display": {
            "en-US": "received scores"
        }
    },
    "object": {
        "id": "https://my.allego.com#scoreReceived_37117",
        "definition": {
            "name": {
                "en-US": "by Mary Jones for 90sec Intro"
            },
            "description": {
                "en-US": "Brief 'elevator introduction' to our company and products."
            }
        },
        "objectType": "Activity"
    },
    "result": {
        "success": true,
        "score": {
            "scaled": 0.8,
            "raw": 4,
            "min": 0,
            "max": 5
        }
    },
    "timestamp": "2017-01-23T22:08:36.000Z",
    "stored": "2017-01-23T22:08:36.718Z",
    "authority": {
        "name": "AllegoAPIServer",
        "account": {
            "homePage": "http://cloud.scorm.com/",
            "name": "OBjWuuY2u_7m9W4KVXE"
        },
        "objectType": "Agent"
    },
    "version": "1.0.0"
}
```
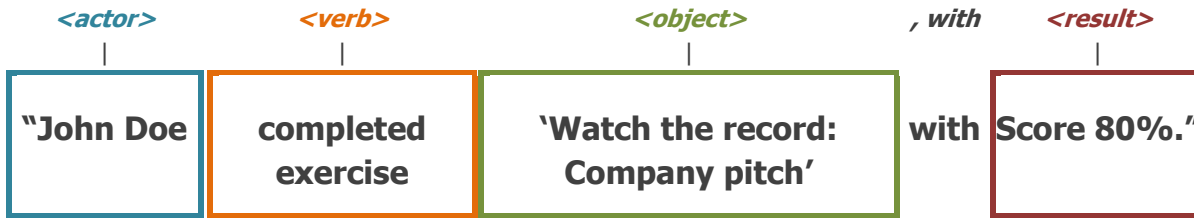
SAMPLE ALLEGO xAPI STATEMENT: EXERCISE COMPLETED

<actor>	*<verb>*	*<object>*	, with	*<result>*
"John Doe	completed exercise	'Watch the record: Company pitch'	with	Score 80%."

The above statement is represented as the following xAPI object in JSON notation:

```
{
    "id": "def5338b-fbe0-426d-b675-274ed6d2440a",
    "actor": {
        "name": "John Doe",
        "mbox": "mailto:jdoe@mycompany.com",
        "objectType": "Agent"
    },
    "verb": {
        "id": "https://my.allego.com#completedExercise",
        "display": {
            "en-US": "completed exercise"
        }
    },
    "object": {
        "id": "https://my.allego.com#completedExercise_36250",
        "definition": {
            "name": {
                "en-US": "Watch the record: Company pitch"
            },
            "description": {
                "en-US": "This exercise is to verify that you can successfully deliver an elevator
pitch for the company, hitting the key points and conveying the excitement of our offerings."
            }
        },
        "objectType": "Activity"
    },
    "result": {
        "success": true,
        "score": {
            "scaled": 0.8,
            "raw": 4,
            "min": 0,
            "max": 5
        }
    },
    "timestamp": "2017-01-23T23:43:42.000Z",
    "stored": "2017-01-23T23:43:44.202Z",
    "authority": {
        "name": "AllegoAPIServer",
        "account": {
            "homePage": "http://cloud.scorm.com/",
            "name": "OBjWuuY2u_7m9W4KVXE"
        },
        "objectType": "Agent"
    },
    "version": "1.0.0"
}
```
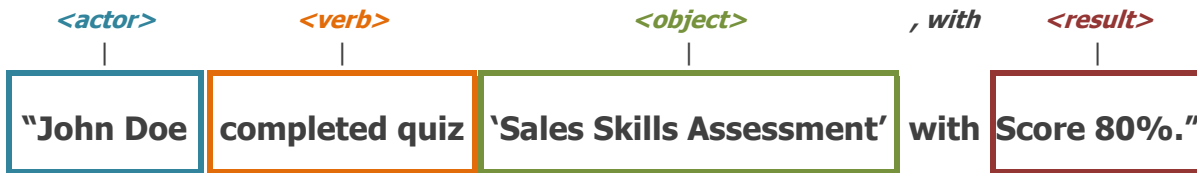
SAMPLE ALLEGO xAPI STATEMENT: VIDEO QUIZ COMPLETED

<actor>	<verb>	<object>	, with	<result>
"John Doe	completed quiz	'Sales Skills Assessment'	with	Score 80%."

The above statement is represented as the following xAPI object in JSON notation:

```
{
    "id": "def5338b-fbe0-426d-b675-274ed6d2440a",
    "actor": {
        "name": "John Doe",
        "mbox": "mailto:jdoe@mycompany.com",
        "objectType": "Agent"
    },
    "verb": {
        "id": "https://my.allego.com#completedQuiz",
        "display": {
            "en-US": "completed quiz"
        }
    },
    "object": {
        "id": "https://my.allego.com#completedQuiz_36250",
        "definition": {
            "name": {
                "en-US": "Sales Skills Assessment"
            },
            "description": {
                "en-US": "This short quiz is part 1 in a series that will allow your leaders to
                    understand where you already have competency and where you could benefit from
                    useful training"
            }
        },
        "objectType": "Activity"
    },
    "result": {
        "score": {
            "scaled": 0.8,
            "raw": 8,
            "min": 0,
            "max": 10
        },
        "response": "8.0 correct,2.0 incorrect: Pass."
    },
    "timestamp": "2017-01-23T23:43:42.000Z",
    "stored": "2017-01-23T23:43:44.202Z",
    "authority": {
        "name": "AllegoAPIServer",
        "account": {
            "homePage": "http://cloud.scorm.com/",
            "name": "OBjWuuY2u_7m9W4KVXE"
        },
        "objectType": "Agent"
    },
    "version": "1.0.0"
}
```
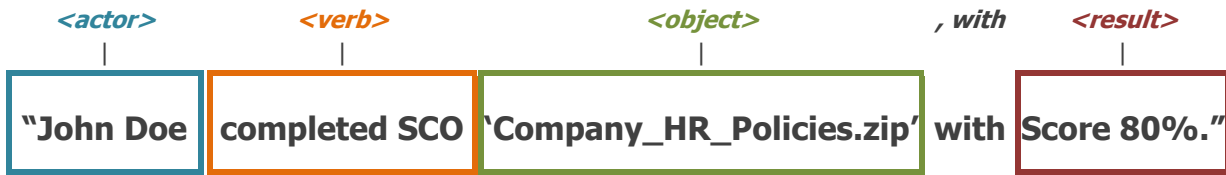
SAMPLE ALLEGO xAPI STATEMENT: SCORM MODULE COMPLETED

<actor>	*<verb>*	*<object>*	, *with*	*<result>*
"John Doe	completed SCO	'Company_HR_Policies.zip'	with	Score 80%."

The above statement is represented as the following xAPI object in JSON notation:

```
{
    "id": "3dea2937-3697-45aa-8b02-35bce2132172",
    "actor": {
        "name": "John Doe",
        "mbox": "mailto:jdoe@mycompany.com",
        "objectType": "Agent"
    },
    "verb": {
        "id": "https://my.allego.com#completedSco",
        "display": {
            "en-US": "completed sco"
        }
        "result": {
            "completion": "true",
            "response": "completed"
        }
    },
    "object": {
        "id": "https://my.allego.com#completedSco_62398",
        "definition": {
            "name": {
                "en-US": "Company_HR_Policies.zip"
            },
            "description": {
                "en-US": "This learning module is the basic company policy overview as mandated
                    by the HR department."
            }
        },
        "objectType": "Activity"
    },
    "result": {
        "score": {
            "scaled": 0.80,
            "raw": 80,
            "min": 0,
            "max": 100
        },
        "response": "passed",
        "completion": true
    },
    "timestamp": "2017-01-23T23:43:42.000Z",
    "stored": "2017-01-23T23:43:44.202Z",
    "authority": {
        "name": "AllegoAPIServer",
        "account": {
            "homePage": "http://cloud.scorm.com/",
            "name": "OBjWuuY2u_7m9W4KVXE"
        },
        "objectType": "Agent"
    },
    "version": "1.0.0"
}
```

SAMPLE ALLEGO xAPI STATEMENT: ALLEGO COURSE COMPLETED

<actor>	*<verb>*	*<object>*
"John Doe	completed course	'Objection Handling 101.'

The above statement is represented as the following xAPI object in JSON notation:

```json
{
    "id": "8d112ee4-e5c1-4bb6-b9f8-35a883a1df82",
    "actor": {
        "name": "John Doe",
        "mbox": "mailto:jdoe@mycompany.com",
        "objectType": "Agent"
    },
    "verb": {
        "id": "https://my.allego.com#completedCourse",
        "display": {
            "en-US": "completed course"
        }
        "result": {
            "completion": true
        }
    },
    "object": {
        "id": "https://my.allego.com#completedCourse_8903",
        "definition": {
            "name": {
                "en-US": "Objection Handling 101"
            },
            "description": {
                "en-US": "These are the top 10 objections that every Account Executive, ADR,
                    And Inside Sales pro must learn how to handle.  This course will pay dividends!"
            }
        },
        "objectType": "Activity"
    },
    "timestamp": "2017-01-23T23:43:42.000Z",
    "stored": "2017-01-23T23:43:44.202Z",
    "authority": {
        "name": "AllegoAPIServer",
        "account": {
            "homePage": "http://cloud.scorm.com/",
            "name": "OBjWuuY2u_7m9W4KVXE"
        },
        "objectType": "Agent"
    },
    "version": "1.0.0"
}
```

<actor>	*<verb>*	*<object>*	, with	*<result>*
"John Doe	flash drilled	'New Messaging Practice'	with	Final Mastery 33%."

The above statement is represented as the following xAPI object in JSON notation:

```
{
    "id": "6f516714-5ab4-4174-8890-1dc906f4738c",
    "actor": {
        "name": "John Doe",
        "mbox": "mailto:jdoe@mycompany.com",
        "objectType": "Agent"
    },
    "verb": {
        "id": "https://my.allego.com#flashDrilled",
        "display": {
            "en-US": "flash drilled"
        }
    },
    "object": {
        "id": "https://my.allego.com#flashDrilled_2799",
        "definition": {
            "name": {
                "en-US": "New Messaging Practice"
            },
            "description": {
                "en-US": "This 20 flashcard drill will help someone over the course of 1 month to
                    truly master the nuances and factoids in our new product messaging "
            }
        },
        "objectType": "Activity"
    },
    "result": {
        "score": {
            "scaled": 0.3333,
            "min": 0,
            "max": 100,
            "raw": 33

        },
        "response": "completions:7"
    },
    "timestamp": "2017-01-23T23:43:42.000Z",
    "stored": "2017-01-23T23:43:44.202Z",
    "authority": {
        "name": "AllegoAPIServer",
        "account": {
            "homePage": "http://cloud.scorm.com/",
            "name": "OBjWuuY2u_7m9W4KVXE"
        },
        "objectType": "Agent"
    },
    "version": "1.0.0"
}
```

CONFIGURING A CATEGORY ID IN XAPI STATEMENTS

You can customize the xAPI statements sent by Allego by appending a value to be included for the "category" id in "contextActivities" for specified xAPI statements. For example, some Cornerstone systems require a specific annotation be included if you want the statement included in the user's transcript.

```
"context":
    {
        "contextActivities":
            {
                "category":
                    [
                        {
                            "id":"http://www.cornerstoneondemand.com/xapi/lms/transcript_display
"
                        }
```

In this example, the category id portion of the message is a static string configured for specific Allego activities. Only category id information can be customized in the context activity. To configure a category ID, contact your Customer Success Manager with the following:

1. Category id value
2. List of activities that will include this value

FREQUENTLY ASKED QUESTIONS

Q: Do I have an LRS?

Answer: Allego may be unable to answer this question for you, however you may be able to ask your Head of Training or your IT Operations team to see if there is an LRS in your corporate environment. If you cannot find a readily accessible LRS portal or documentation on xAPI integration, you are not likely to be a good candidate for using Allego's LRS integration.

Q: Does my LMS include an LRS?

Answer: Some established Learning Management System companies do offer an LRS their LMS products, however this has been very rare among Allego customers. For example, despite their support for xAPI/Tin Can and SCORM content, neither *SuccessFactors* nor *Docebo* support xAPI statements as an LRS.

In their suite, *Cornerstone's Learning Record Store* includes xAPI support for recording external learning activities include but not limited to mobile apps, offline learning, web application, collaborative learning, games, videos, etc. Organizations must configure their content based on Cornerstone's xAPI integration guidelines. However, Cornerstone's LRS is a separate product from *Cornerstone for Salesforce* and *Cornerstone On Demand*. Neither of those offer LRS support natively.

Litmos LMS does include an LRS that supports xAPI integration.

Q: Can I still use Allego's xAPI features without an LRS?

Answer: Allego's Learning Record Store integration features are meant exclusively for use with an LRS. For other questions related to reporting scenarios and integration scenarios, contact your Customer Success Manager with your goals, the names of the other software products in your environment, and any integration documentation that they offer.

Q: Where can I license a stand-alone LRS if I don't already have one?

Answer: The following are open source, cloud based, or popular stand-alone Learning Record Stores:

1. Learning Locker
   https://learninglocker.net/
2. Wax LRS
   http://www.saltbox.com/wax-learning-record-store.html
3. GrassBlade
   http://www.nextsoftwaresolutions.com/
4. Skillanalyzer
   http://skillaware.com/en/skillanalyzer/
5. Watershed LRS
   https://www.watershedlrs.com/