OneRoster
Enrolling your SIS in Moodle

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What is OneRoster?

- A standards specification created by IMS

- For sharing class rosters between Student Information Systems (SIS) and any other System

- Can also share related data, including:
  - Course content (Resources)
  - Gradebook

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Why is it important?

- Standardised way to quickly and easily synchronise key data with many common SIS vendors
- Heavily used across the world in K-12
- Complements other IMS Specifications
- Will influence the next generation framework, *Edu-API*, aimed at HE
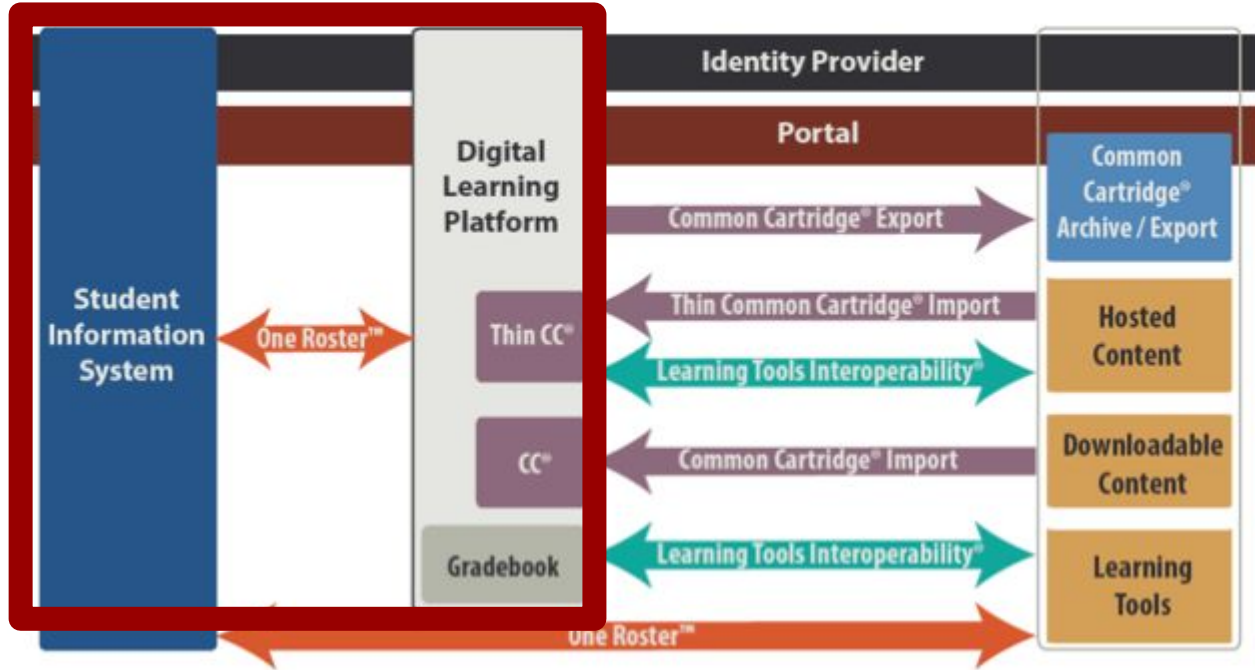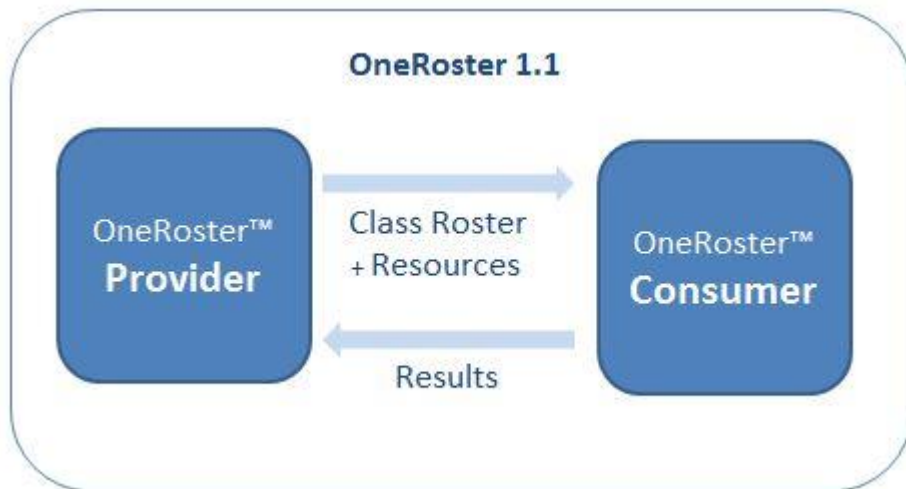
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OneRoster Architecture

OneRoster

Architecture

- Two possible implementation pathways:
  - CSV
  - REST API
- Six certification areas:

Mode	SIS	Related system
Rostering	Provider	Consumer
Resource	Provider	Consumer
Gradebook	Provider + Consumer	Consumer + Provider

OneRoster

OneRoster 1.1
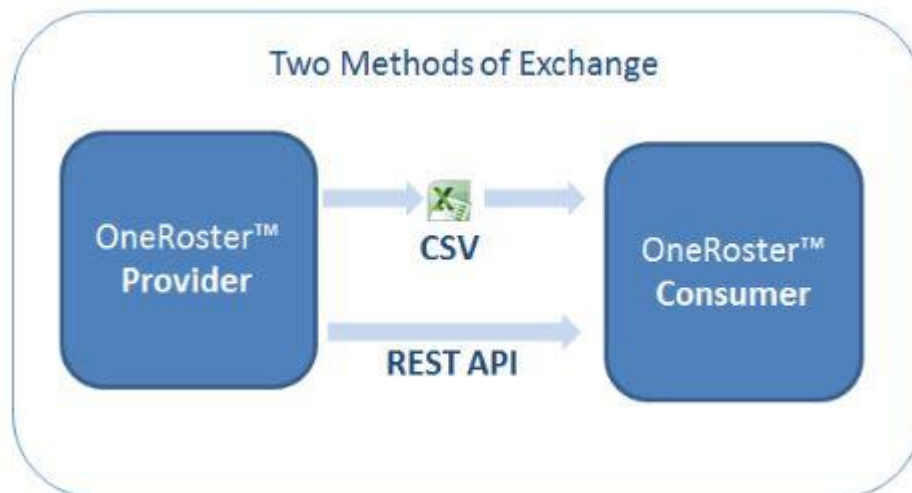
OneRoster™ **Provider** → Class Roster + Resources → OneRoster™ **Consumer**

OneRoster™ **Consumer** → Results → OneRoster™ **Provider**

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Two Methods of Exchange

OneRoster™ Provider → CSV → OneRoster™ Consumer

REST API

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Architecture

- Two possible implementation pathways:
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  - REST API

- Six certification areas:

Mode	SIS	Related system
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Resource	Provider	Consumer
Gradebook	Provider + Consumer	Consumer + Provider

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OneRoster and Moodle

- Implemented as *Rostering Consumer*
- Via an *Enrolment* plugin
- *Certified* as a *REST Rostering Consumer* against OneRoster 1.1
- Also supports OneRoster 1.0 (deprecated)
- Supports OAuth 1.0a and OAuth2.0
- Scheduled task to perform sync

IMS GLOBAL
CERTIFIED
Current Registrations:
imscert.org

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Rostering

Consumer

- What is synchronised?
  - All users in the organisation
  - List of courses/classes
  - Student, and Teacher enrollments
    - Including start + end dates
  - Parent/Guardian relationships

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Connections settings

One Roster version
enrol_oneroster | oneroster_version

Version 1.1 ⇕   Default: Version 1.1

The version of the One Roster specification that the remote server meets.

OAuth version
enrol_oneroster | oauth_version

OAuth 2.0 ⇕   Default: OAuth 2.0

The version of the OAuth authentication system that the remote server supports.

Token URL
enrol_oneroster | token_url

https://demo.aeries.net/aeries/token   Default: Empty

The OAuth URL used to fetch an authentication token.

One Roster Root URL
enrol_oneroster | root_url

https://demo.aeries.net/aeries   Default: Empty

The Root URL of the One Roster server.

Authentication Client ID
enrol_oneroster | clientid

1279e5c6b747b6d62b7c76db3a205   Default: Empty

The client id key used for authentication

Authentication Secret
enrol_oneroster | secret

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The secret key used for authentication

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Role mapping

You can choose which role to use when enrolling different types of users. If you do not choose a mapping, that user will not be enrolled in the course at all.

One Roster Student
enrol_oneroster |
role_mapping_student

| Student ‡ | Default: Student

A student at a organization.

One Roster Teacher
enrol_oneroster |
role_mapping_teacher

| Teacher ‡ | Default: Teacher

A Teacher at organization.

One Roster Aide
enrol_oneroster |
role_mapping_aide

| Student Aide ‡ | Default: Not mapped

Someone who provides appropriate aide to the user but NOT also one of the other roles.

Proctor
enrol_oneroster |
role_mapping_proctor

| Manager ‡ | Default: Not mapped

Exam proctor.

One Roster Parent
enrol_oneroster |
role_mapping_parent

| Parent ‡ | Default: Not mapped

Mother or father of the user.

One Roster Guardian
enrol_oneroster |
role_mapping_guardian

| Parent ‡ | Default: Not mapped

Guardian of the user and NOT the Mother or Father. May also be a Relative.

One Roster Relative
enrol_oneroster |
role_mapping_relative

| Parent ‡ | Default: Not mapped

A relative of the user and NOT the mother or Father. May also be a Guardian.

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Data synchronisation

Schools to sync

enrol_oneroster |
datasync_schools

> Eagle Unified School District
> Transfer School
> Holding Tank School TK
> Flex Soaring Eagle High School no ATT
> Flex Soaring Eagle High School with ATT
> X Eagle District School
> X NPS School
> X Private School
> Golden Eagle Elementary School
> Tawny Eagle YR Elementary School

Default: None

One Roster implementation often cover a number of Organisations, Districts, and Schools. You can choose which schools you choose to synchronise.

```
2108 oneroster:oneroster> php admin/cli/scheduled_task.php --execute="\enrol_oneroster\task\full_sync"
Execute scheduled task: Full sync of One Roster (enrol_oneroster\task\full_sync)
... started 00:42:04. Current memory use 14.7MB.
Processing 14 schools
  Updating the user roster
        Updating existing user 0_pat_1 with id 18803 (PAT_1) 1599622626 < 1607381009
        Skipping update of existing user 0_pat_10 with id 18804 (PAT_10)
        Skipping update of existing user 0_pat_100 with id 18805 (PAT_100)
        Skipping update of existing user 0_pat_101 with id 18806 (PAT_101)
        Skipping update of existing user 0_pat_102 with id 18807 (PAT_102)
        Skipping update of existing user 0_pat_103 with id 18808 (PAT_103)
        Skipping update of existing user 0_pat_104 with id 18809 (PAT_104)
        Skipping update of existing user 0_pat_105 with id 18810 (PAT_105)
        Skipping update of existing user 0_pat_106 with id 18811 (PAT_106)
        Skipping update of existing user 0_pat_107 with id 18812 (PAT_107)
        Skipping update of existing user 0_pat_108 with id 18813 (PAT_108)
        Skipping update of existing user 0_pat_109 with id 18814 (PAT_109)
        Skipping update of existing user 0_pat_11 with id 18815 (PAT_11)
        Skipping update of existing user 0_pat_12 with id 18816 (PAT_12)
        Skipping update of existing user 0_pat_13 with id 18817 (PAT_13)
        Skipping update of existing user 0_pat_14 with id 18818 (PAT_14)
        Skipping update of existing user 0_pat_15 with id 18819 (PAT_15)
        Skipping update of existing user 0_pat_16 with id 18820 (PAT_16)
        Skipping update of existing user 0_pat_17 with id 18821 (PAT_17)
        Skipping update of existing user 0_pat_18 with id 18822 (PAT_18)
        Skipping update of existing user 0_pat_19 with id 18823 (PAT_19)
        Skipping update of existing user 0_pat_20 with id 18824 (PAT_20)
```

Apps Check for WCAG... https://tracker.mo... https://tracker.mo... GenisX v1p1/sync: Break... [MDL-63401] Use... a https://tracker.mo...

or

Admin User

Raina Booker | Active

Taliyah Burnett | Active

Dillan Chambers | Active

Enrolment details ×

Bernard Clemen | Active

Matthew Crane | Active

Full name	Jaeden Fernandez
Course	Pre-Algebra
Enrolment method	One Roster
Status	Active
Enrolment starts	Monday, 6 July 2020, 1:00 am
Enrolment ends	Saturday, 31 July 2021, 1:00 am
Enrolment created	Friday, 4 September 2020, 2:37 am

Elisha Dunlap | Active

Amanda Emerso | Not current

Jaeden Fernand | Active

Talan Ferrell | Active

Ittalia Gomez | Not current

Jorge Gorton | Not current

Cancel

Chanelle Guadarrama | Chanelle.Guadarrama@example.com | No roles 🖉 | No groups | Never | Not current

Malakai Hall | M.Hall@example.com | Student 🖉 | No groups | Never | Active

Taniyah Harmon | T.Harmon@example.com | Student 🖉 | No groups | Never | Active

David Hernandez | David.Hernandez@example.com | No roles 🖉 | No groups | Never | Not current

1 2 3 »

Show all 56

Select all 56 users   With selected users...   Choose... ⇕

Enrol users

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Current

Status

- Released in Plugins Database

- Available as plugin on GitHub

- Certified with IMS Global

  - Self-certifying

IMS GLOBAL

CERTIFIED

Current Registrations:
imscert.org

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Current Status

View it on the plugins database

https://moodle.org/plugins/enrol_oneroster

View it on GitHub

https://github.com/moodlehq/moodle-enrol_oneroster

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```
2016 oneroster:main> php conformance/v1p1.php --tokenurl="https://demo.aeries.net/aeries/token" --rooturl="https://demo.aeries.ne
t/aeries" --clientid=1279e5c6b747b6d62b7c76db3a205d40eb7458e678a90493d537d5af6b953550 --secret=68019dbf8d8ba82980dd148eecc3977ac0
d7f1f040d444225874c88eb80b9c1a
==============================================================================================
= One Roster Version 1.1 Conformance Test Suite test runner
==============================================================================================


        Token server:              https://demo.aeries.net/aeries/token
          Client Id:               1279e5c6b747b6d62b7c76db3a205d40eb7458e678a90493d537d5af6b953550
        Client Secret:             68019dbf8d8ba82980dd148eecc3977ac0d7f1f040d444225874c88eb80b9c1a


==============================================================================================
Authentication
==============================================================================================

    OAuth2:Send request with valid access token   Passed
             Token:                 50ac4da6a85d21b72365fd5965011dd2
             Expiry:                1607420139
             Scope:                 https://purl.imsglobal.org/spec/or/v1p1/scope/roster.readonly



==============================================================================================
OAuth Features
==============================================================================================

    OAuth:Sign request with URL Parameters with space(s) in the value of a parameter    Passed


==============================================================================================
Rostering endpoints
==============================================================================================

    Endpoint:                           Users   Passed
    Endpoint:                      User by id    Passed
    Endpoint:                        Students    Passed
    Endpoint:                   Student by id    Passed
    Endpoint:                        Teachers    Passed
    Endpoint:                   Teacher by id    Passed
    Endpoint:                            Orgs    Passed
```

Current Limitations

- Only supports manual authentication
  - via password supplied by SIS
- No course hierarchy (categories)
  - Data not available in OneRoster spec
- No user groups created in course
  - Data not available in OneRoster spec
- No course rollover
  - No part of OneRoster spec

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Future

Plans

- Add to Moodle LMS Core
  - 3.11 or 4.0
- Add support for Gradebook
- Add support for alternative user auth
  - Needs real world feedback
- Support OneRoster 1.2
  - Not yet finalised

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Current

Status

Plugins database

https://moodle.org/plugins/enrol_oneroster

GitHub

https://github.com/moodlehq/moodle-enrol_oneroster

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