

# Technical Specification

## Organization API



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## 1 Introduction

The Organization API in Lifecare Exchange Services provides services that make it possible to get the organization for a specified school type. The services in the Organization API are accessed via URIs. Each of the 12 supported school types has a unique URI. The organization information that you can get and set via the API follows the standard IMS Enterprise 1.1.

This document describes following:

- Which organization information that can be fetched. (This is described by specifying which attributes that is used for the different IMS entities.)
- How Lifecare Education entities are mapped to IMS entities
- How the IMS entities, in the organization, are structured

### Note:

IMS Enterprise 1.1 provides a number of attributes. These attributes are not sufficient for Organization API and therefore new attributes has been added as IMS extensions. Some IMS Enterprise 1.1 enumerations have also been extended to support Nordic school requirements, laws and regulations. These extensions are in line with the IMS standard.

### 1.1 Prerequisites

Before you can get access to the Organization API you must request a license key from Tieto. You should have basic knowledge about the IMS Enterprise standard and W3C XML before you starts using the API.

## 2 Supported school types

The table below describes the supported school types.

School types	Description	Code
Pedagogical care	Childcare groups for children between 1-12 years	PC
Preschool	Childcare for children between 1-6 years	FS
Leisure time centre	Childcare for school-aged children over 6 years	F
Preschool class	Preschool class for children 6 years of age	FK
Compulsory School	Primary school for younger students	GR
Compulsory School For Learning Disabilities	Compulsory school for learning disabilities	S
Upper Secondary School	Secondary school, 3-4 years education	GY
Upper Secondary School For Learning Disabilities	Secondary school for learning disabilities	GS
Swedish For Immigrants School	School for Swedish immigrants	SF
Adult School For Learning Disabilities	Adult school for learning disabilities	SV
Municipal Adult School	Municipality school for adults	KV
Higher Vocational Education	School for Higher Vocational Education	YH

### 3 Structure and mapping

All entities in the organization for specified school type are mapped into the IMS entities person, group and membership.

The memberships describe relations between persons and groups and groups and other groups.

#### 3.1 Mapping

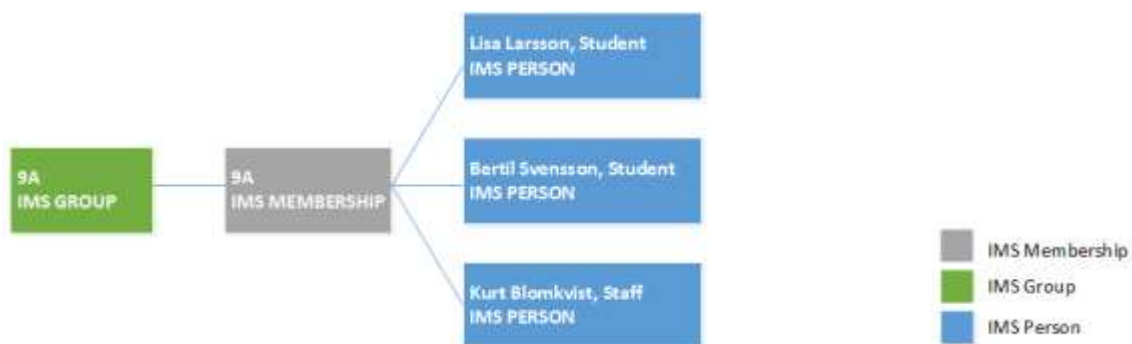
This table describes how childcare and school entities in Lifecare Education are mapped to IMS entities.

Type	IMS Type	Description
Course	Group	School course in higher education levels.
Subject	Group	School subject in compulsory education.
Class	Group	School class in education.
Unit	Group	Preschool and school units
EducationGroup	Group	Education group for students
OtherGroup	Group	Other group without any connection to education courses or subjects.
ContactGoup	Group	Contact group for each child and student containing contacts and guardians
Department	Group	Preschool unit.
DepartmentGroup	Group	Preschool group
Contact	Group	Contact persons for student and child, including guardians for children below 18 year.
Student	Person	School students from preschool class to adult education.
Child	Person	Child 1-12 year in preschool, leisure time centre and pedagogical care.
Staff	Person	School administrative personnel, pedagogical personnel and managers.

## 3.2 Examples of structures and mappings

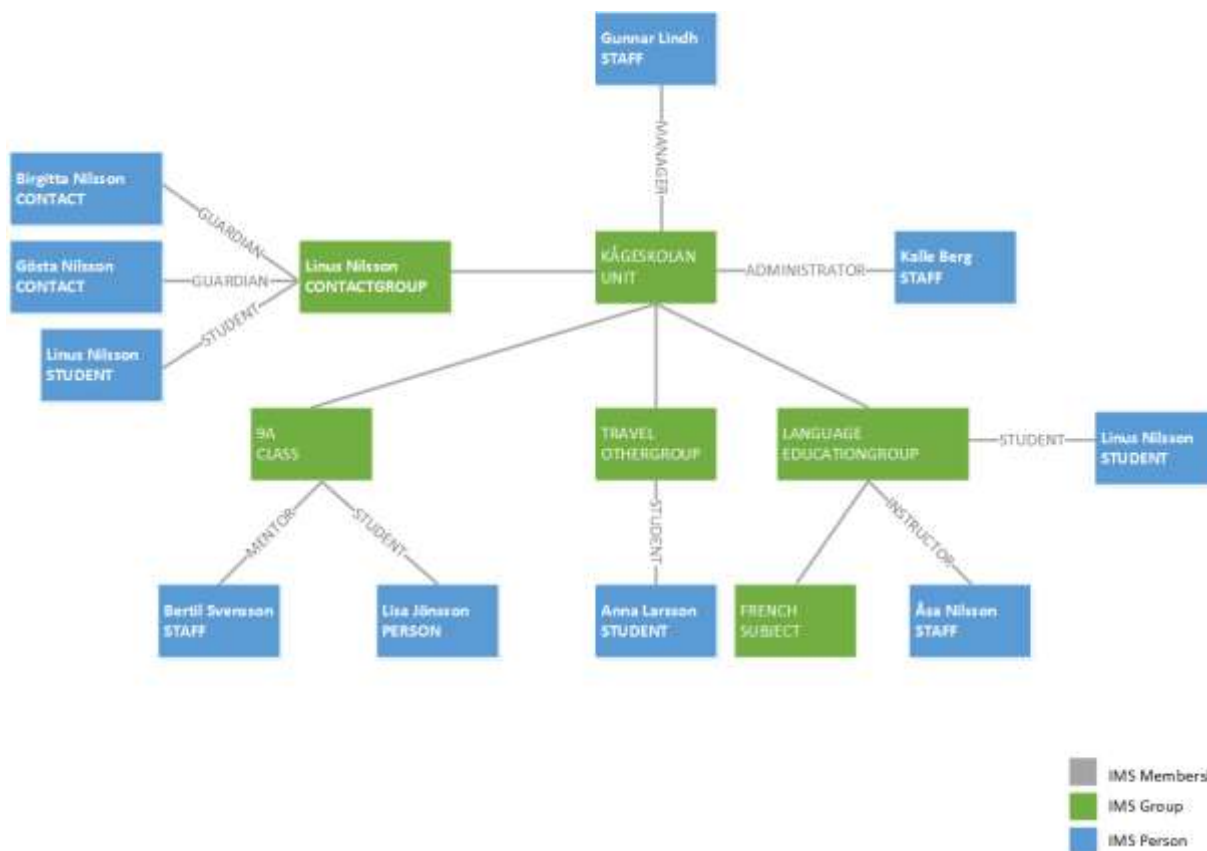
### 3.2.1 Compulsory school class example

The diagram below shows an example of how a compulsory school class is structured. It also shows mapping between Lifecare Education entities and IMS entities.



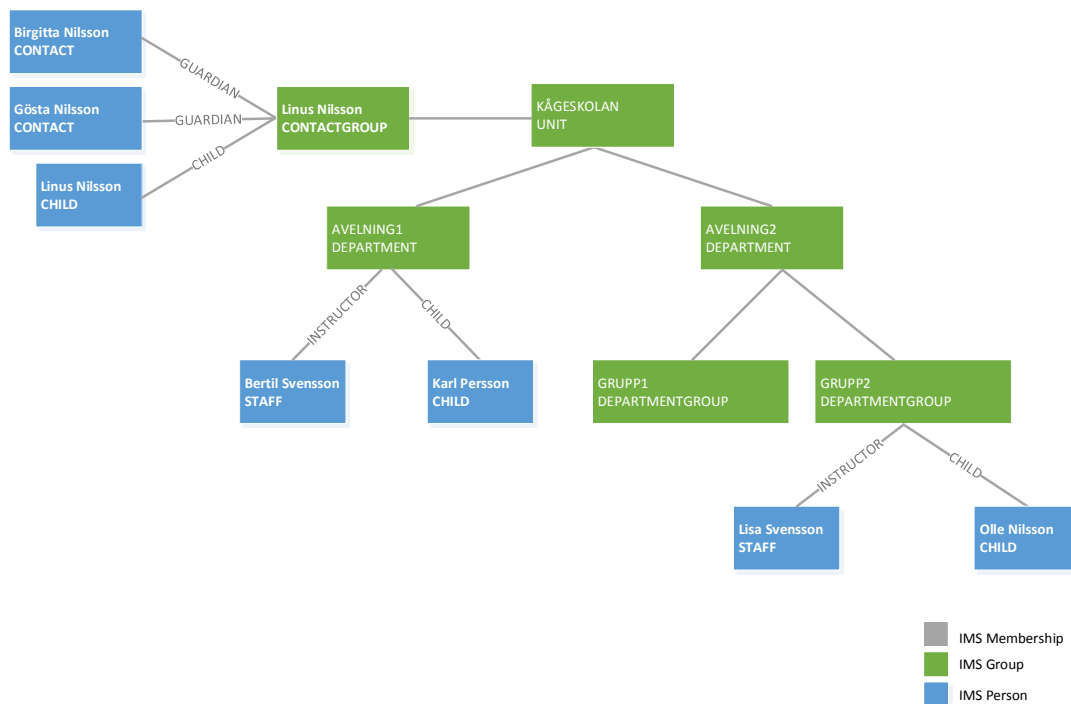
### 3.2.2 Compulsory school organization example

The diagram below shows an example of how a compulsory school organization is structured. It also shows mapping between Lifecare Education entities and IMS entities.



### 3.2.3 Preschool organization example

The diagram below shows an example of how a preschool organization is structured. It also shows mapping between Lifecare Education entities and IMS entities.





## 4 Entities

### 4.1 Properties

The delivery information of the IMS Enterprise packaging that is used to manage the exchange of data between source and target system.

Name	Description
datasource	This is the source identifier of data source, for export the source is customer domain and school type.
comments	Input values for the service.
type	Complete export, Delta export, Get units
datetime	The date and time the XML information were generated. The format is as [YYYY-MM-DDTHH:MM:SS]

### 4.2 IMS Person

The person object contains information about child, students, professionals and contact persons in Lifecare Student management system. All persons are identified with a personal identity and Globally Unique Identifier (GUID). The personal identity could be temporary or generated from Skatteverket, for more information see [www.skatteverket](http://www.skatteverket)

#### 4.2.1 Person attributes

Name	Description	Read-only
sourcedid.id	The persistent unique identity of the person	Yes
sourcedid.source	Code for the school type. See table with supported school types.	Yes
userid.value	Alternative unique identifiers of the person	Yes
userid.useridtype	Enumerated as PID, GUID	Yes
name.fn	Formatted name	Yes
name.n.given	The given name and not necessarily the first name	No
name.n.family	This is the family name and not necessarily the last name	No
email	Email home address	No
tel	Phone numbers	No
tel.teltype	Identifies the type of telephone number. Enumerated as Voice, Mobile and Work where Voice is home phone.	No
adr.pcode	The post identity number	No
adr.street	The actual street address	No

Name	Description	Read-only
adr.locality	The locality component of the address e.g., the City	No
adr.extadd	C/O address	No
demographics.bday	The birth date of the Person. The format is [YYYY-MM-DD]	Yes
demographics.gender	The gender of the Person. This is enumerated as Unknown, Female and Male	Yes
institutionrole.institutionroletype	The role of the Person within the institution. This is enumerated as Student, Staff, Contact, Child	Yes
institutionrole.primaryrole	Identifies if the associated role is the primary one for the Person in the institution. Enumerated as Yes, No	Yes
systemrole.systemroletype	The role of the person within the software environment. The value is always None	Yes
datasource	Source for address information.	Yes

## 4.2.2 Person extensions

Common extended properties for all persons

Name	Description	Read-only
privacy	The person has restrictions. This is enumerated as None, Level1. Level1 means privacy highlighted by the "Skatteverket".	Yes
geographickeycode	Geographic key code	No
municipalitycode	Municipality code, formatted [NNNN], for more information see <a href="http://www.ski.se">www.ski.se</a>	No
municipalityname	Municipality name	Yes
timestamp	Date and time when person is created updated or deleted.	Yes

## 4.2.3 Person extension for students

Extended properties for students

Name	Description	Read-only
nativelanguage	Native language, formatted as longer a form of language name	No
programcode	Code for study for upper secondary school and higher vocational education, formatted [AAAAAAAA], for more information see <a href="http://www.skolverket.se">www.skolverket.se</a>	Yes
schoolunitcode	School unit for responsible school manager	Yes
altadr.pcode	The post identity number for alternative address	Yes
altadr.street	The actual street address for alternative address	Yes

Name	Description	Read-only
altadr.locality	The locality component of the address, e.g., the City, for alternative address	Yes
altadr.extadd	C/O address for alternative address	Yes

#### 4.2.4 Person extensions for staff

Extended properties for staff

Name	Description	Read-only
employmentstart	Employment starts date	Yes
employmentend	Employment end date	Yes
signature	Short name signature for the teacher	Yes
emailwork	E-mail address for professional work	No
schoolunitcode	One or more school unit codes for directors of education	Yes

#### 4.3 IMS Group

Group is used for school units, classes, programs, courses, subjects, education groups and other groups. Depending on school type, some groups exist only for a particular school type.

This implementation does not attribute relationship for group relations to other groups. All group and person relations are described by memberships.

Groups can have extensions depending on group type.

Name	Description	Read-only
sourcedid.id	The persistent unique identity of the group	Yes
sourcedid.source	Code for the school type. See table with supported school types.	Yes
description.short	Group code or name.	Yes
description.long	Longer descriptive name for the group	Yes
group.type.value	The container for the type classification being assigned to the group. This is enumerated as Unit, Class, Subject, Course, OtherGroup, EducationGroup, ContactGroup, Department and DepartmentGroup	Yes
group.type.value.level	The parameter is always set to "1"	Yes
timeframe.begin	Defines when a group is intended to be available. Formatted as [YYYY-MM-DD]. The parameter is used for Unit, Department,	Yes

Name	Description	Read-only
	DepartmentGroup, Class, EducationGroup. The parameter is not used for Subject, Course, ContactGroup	
timeframe.end	Defines when group is intended to end. Formatted as [YYYY-MM-DD]	Yes

### 4.3.1 Group extensions

Common extended properties for all groups

Name	Description	Read-only
timestamp	Date and time when group is created updated or deleted.	Yes

#### 4.3.2 Group extensions for course

Extended properties for education courses for upper secondary school and adult education

Name	Description	Read-only
coursecode	School course code, formatted [AAAAAAAAAA]. For more information see <a href="http://www.skolverket.se">www.skolverket.se</a>	Yes
points	Education total points for the course	Yes

#### 4.3.3 Group extensions for subject

Extended properties for education subjects for preschool class and compulsory school

Name	Description	Read-only
subjectcode	School subject code, formatted [AAA]. For more information see <a href="http://www.skolverket.se">www.skolverket.se</a>	Yes
languagecode	Språkkod, språkkoderna är hämtade från den internationella språkstandarden (ISO 639-3).	Yes

#### 4.3.4 Group extensions for class

Extended properties for school classes

Name	Description	Read-only
schoolyear	School year. This is not present in case of a mixed class (with more than one school year).	Yes

#### 4.3.5 Group extensions for other groups

Extended properties for non-education groups

Name	Description	Read-only
groupusage	The group usage, e.g. group for bus tickets	Yes

#### 4.3.6 Group extension for units

Extended properties for school units from preschool to higher vocational education

Name	Description	Read-only
schooltype	School type, for more information see defined school types in this documentation	Yes
csncode	CSN code for schools in Sweden, for more information see <a href="http://www.csn.se">www.csn.se</a>	Yes
governedby	Owns and manages the business for this group. This is enumerated as Private, Municipal and State	Yes
phone	Phone number to school office	Yes
pcode	The post identity number	Yes
street	The actual street address	Yes
locality	The locality component of the address e.g., the City	Yes
web	The school web address	Yes
municipalitycode	Municipality code, formatted [NNNN], for more information see <a href="http://www.skl.se">www.skl.se</a>	Yes
municipalityname	Municipality name	Yes
period	Periods defined on the unit	Yes
period.type	Type of period.	Yes
period.start	Start date for period	Yes
period.end	End date for period	Yes
geographickeycode	Geographic key code. This is only used for preschool, leisure time centre, preschool class, compulsory school and compulsory school for learning disabilities.	Yes

#### 4.3.7 Group extension for departments

There are no other extensions for departments than what is mentioned in chapter 4.3.1

#### 4.3.8 Group extension for department groups

There are no other extensions for department groups than what is mentioned in chapter 4.3.1.

## 4.4 IMS Membership

The membership structure is used to define the members of a group or personal relations. A member can be a person or another group.

### 4.4.1 Membership attributes

Name	Description	Read-only
sourcedid.id	This is the persistent unique identifier assigned to the group structure for which the memberships are being defined.	Yes
sourcedid.source	Code for the school type. See table with supported school types.	Yes
member.sourcedid.id	This is the unique identifier assigned to the group structure which is the member of the host group	Yes
member.idtype	Indicates if the Member is a person or another group. Enumerated as Person or Group.	Yes
member.role.status	Indicates if a member is active or inactive in the group. The value is always set to "Active".	Yes
member.role.roletype	The member's function within a group. The content is enumerated as: Instructor, Mentor, Administrator, Guardian, Contact, OtherResponsible, Child, Student, Manager, GradeAuthority, Unit, Class, Subject, Course, OtherGroup, EducationGroup, ContactGroup, Department and DepartmentGroup	Yes
member.role.timeframe.begin	Defines when a group is intended to be available for a person or a group. Formatted as [YYYY-MM-DD]. The time frame is within the timeframe for the group that owns the membership.	Yes
member.role.timeframe.end	Defines when group participation for a person or a group is intended to end. Formatted as [YYYY-MM-DD]. The time frame is within the timeframe for the group that owns the membership.	Yes

### 4.4.2 Membership extensions

Common extended properties for members in memberships

Name	Description	Read-only
timestamp	Date and time when member in membership is created updated or deleted.	Yes
schoolyear	School year	Yes

## 5 Services

All services are based on HTTP REST technology and organized in school types to match each school structure. "Update services" are using the method HTTP POST and "Get services" are using the method HTTP GET.

### 5.1 Complete Export of organization

These services return the complete organization at a specific time. All services are using current time as default value for search date identified. By using search date you can get the organization from past or future.

Base path for services are: <https://host/les/organization/v1/organization.svc/>

Parameters – Alternative 1:

Parameter	Mandatory	Description
SearchDate	No	The search date. Current date will be used if SearchDate is not specified. The oldest search date that can be used is current date minus one year.

Parameters – Alternative 2:

Parameter	Mandatory	Description
SchoolUnitId	Yes	Id for the school unit. Organization for all school units will be returned if SchoolUnitId is not specified.
SearchDate	No	The search date. Current date will be used if SearchDate is not specified. The oldest search date that can be used is current date minus one year.

Parameters – Alternative 3:

Parameter	Mandatory	Description
PersonId	Yes	The id can be GUID or PID for the student.
SearchDate	No	The search date. Current date will be used if SearchDate is not specified. The oldest search date that can be used is current date minus one year.

Services:



Service	Description
GetPedagogicalCareOrganization	Organization for pedagogical care.
GetPreSchoolOrganization	Organization for preschool.
GetLeisureTimeCentreOrganization	Childcare organization for leisure time centre.
GetPreSchoolClassOrganization	Organization for preschool class
GetCompulsorySchoolOrganization	Organization for compulsory schools.
GetCompulsorySchoolForLearningDisabilitiesOrganization	Organization for compulsory school with learning disabilities.
GetUpperSecondarySchoolOrganization	Organization for upper secondary school.
GetUpperSecondarySchoolForLearningDisabilitiesOrganization	Organization for upper secondary school with learning disabilities.
GetSwedishForImmigrantsSchoolOrganization	Organization for Swedish for immigrants.
GetMunicipalAdultSchoolOrganization	Organization for municipal adult school.
GetAdultSchoolForLearningDisabilitiesOrganization	Organization for adult school with learning disabilities.
GetHigherVocationalEducationOrganization	Organization for higher vocational education.

## 5.2 Delta Export of organization

These services give the organizational changes done within a specified timeframe. The output is XML information with changed organization entities. For each changed entity the attribute "recstatus" is used to indicate the type of change. The attribute "recstatus" is enumerated as 1=Add, 2=Update and 3=Delete. When deleting a group or person only the deleted entity is indicated as deleted, no cascading deletes for memberships are reported. All changed entities have a timestamp stored in the extension attribute "timestamp" for all entities to secure information quality.

When person is updated the institution role type may be empty.

Base path for services are: <https://host/les/organization/v1/organization.svc/>

Parameters:

Parameter	Mandatory	Description
StartDate	Yes	Start date&time
EndDate	Yes	End date&time

Parameter value limitations:

- EndDate – StartDate >= 1 hour
- EndDate – StartDate <= 24 hours
- Current time – EndDate >= 1 hour

Services:

Service	Description
GetUpperSecondarySchoolOrganizationDelta	Organization delta for upper secondary school.
GetUpperSecondarySchoolForLearningDisabilitiesOrganizationDelta	Organization delta for upper secondary school with learning disabilities.
GetSwedishForImmigrantsSchoolOrganizationDelta	Organization delta for Swedish for immigrants school.
GetMunicipalAdultSchoolOrganizationDelta	Organization delta for municipal adult school.
GetAdultSchoolForLearningDisabilitiesOrganizationDelta	Organization delta for adult school with learning disabilities.
GetHigherVocationalEducationOrganizationDelta	Organization delta for higher vocational education.

Some use cases for delta export:

Organization change	Indicated with
New school unit	IMS Group for school unit (recstatus = 1)
New class	IMS Group for class (recstatus = 1)
New education group	IMS Group for education group (recstatus = 1)
New contact for student	IMS Membership for relations between contact and contact group, IMS Person contact person and IMS Group for contact group (recstatus = 1)
Remove contact for student	IMS Membership (recstatus = 3)
New student in class	IMS Membership for relations between, IMS Person for student and IMS Group for class (recstatus = 1)
Remove student from class	IMS Membership (recstatus = 3)
New teacher in class	IMS Membership for relations between instructor and class and course/subject, IMS Group for class and course/subject, IMS Person for instructor (recstatus = 1)
Remove teacher from class	IMS Membership (recstatus = 3)
New teacher in educations group	IMS Membership for relations between instructor and educations group and course/subject, IMS Group for education group and course or subject, IMS Person for instructor (recstatus = 1)
Remove teacher from education group	IMS Membership (recstatus = 3)
Changed address information on contact person	IMS Person with new address information (recstatus = 2)
Changed information on school unit	IMS Group with new unit information (recstatus = 2)

## 5.3 Get Units

These services return the units for a specific school type.

Base path for services are: <https://host/les/organization/v1/organization.svc/>

Parameters:

Parameter	Mandatory	Description
SearchDate	No	The search date. Current date will be used if SearchDate is not specified. The oldest search date that can be used is current date minus one year.

Services:

Service	Description
GetPedagogicalCareUnits	Units for pedagogical care.
GetPreSchoolUnits	Units for preschool.
GetLeisureTimeCentreUnits	Units for leisure time centre.
GetPreSchoolClassUnits	Organization for preschool class
GetCompulsorySchoolUnits	Organization for compulsory schools.
GetCompulsorySchoolForLearningDisabilitiesUnits	Organization for compulsory school with learning disabilities.
GetUpperSecondarySchoolUnits	Organization for upper secondary school.
GetUpperSecondarySchoolForLearningDisabilitiesUnits	Organization for upper secondary school with learning disabilities.
GetSwedishForImmigrantsSchoolUnits	Organization for Swedish for immigrants.
GetMunicipalAdultSchoolUnits	Organization for municipal adult school.
GetAdultSchoolForLearningDisabilitiesUnits	Organization for adult school with learning disabilities.
GetHigherVocationalEducationUnits	Organization for higher vocational education.

## 5.4 Import of organization

The services update the school organization. The services using IMS "recstatus" attribute on entities to identify transaction types, enumerated as 1=Add, 2=Update and 3=Delete. When persons are populated from Skatteverket all address information are read-only. The services take no parameters.

Base path for services are: <https://host/les/organization/v1/organization.svc/>

Services:

Service	Description
UpdatePedagogicalCareOrganization	Update organization for pedagogical care.
UpdatePreSchoolOrganization	Update organization for pre-school.
UpdateLeisureTimeCentreOrganization	Update organization for leisure time centre.
UpdatePreSchoolClassOrganization	Update organization for preschool class.
UpdateCompulsorySchoolOrganization	Update organization for compulsory school
UpdateCompulsorySchoolForLearningDisabilitiesOrganization	Update organization for compulsory school for learning disabilities.
UpdateUpperSecondarySchoolOrganization	Update organization for secondary school.
UpdateUpperSecondarySchoolForLearningDisabilitiesOrganization	Update organization for upper secondary school for learning disabilities.
UpdateSwedishForImmigrantsSchoolOrganization	Update organization for SFI schools
UpdateMunicipalAdultSchoolOrganization	Update organization for municipal adult education
UpdateAdultSchoolForLearningDisabilitiesOrganization	Update organization for adult school for learning disabilities.
UpdateHigherVocationalEducationOrganization	Update organization for higher vocational education.

## 6 Appendix

### 6.1 References

Name	Address
IMS Enterprise Information Model	<a href="http://www.imsglobal.org/enterprise/entv1p1/imsent_infov1p1.html">http://www.imsglobal.org/enterprise/entv1p1/imsent_infov1p1.html</a>
IMS Enterprise XML Binding Specification	<a href="http://www.imsglobal.org/enterprise/entv1p1/imsent_bindv1p1.html">http://www.imsglobal.org/enterprise/entv1p1/imsent_bindv1p1.html</a>
IMS Enterprise Best Practices and Implementation Guide	<a href="http://www.imsglobal.org/enterprise/entv1p1/imsent_bestv1p1.html">http://www.imsglobal.org/enterprise/entv1p1/imsent_bestv1p1.html</a>
Organization API XML schemas and examples	<a href="https://github.com/ExchangeServices/API">https://github.com/ExchangeServices/API</a>

### 6.2 Vocabulary

Word	Description
Mentor	School mentor for student
Instructor	Teacher
Guardian	Guardian is the person who has legal custody for a child. It can be either one or both parents or a person designated by the court
Contact	Student contacts
Other responsible	Other responsible to children below 18 years, for example foster parents
Child	Children below 6 year
Student	School student 6 year and older
Administrator	School administrator
PID	Personal identity, formatted [YYYYMMDD-NNNN]
GUID	Global unique identifier
Other group	Non education groups
Education group	Student groups related to education course or subject depending on school types
Manager	Director of schools