

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

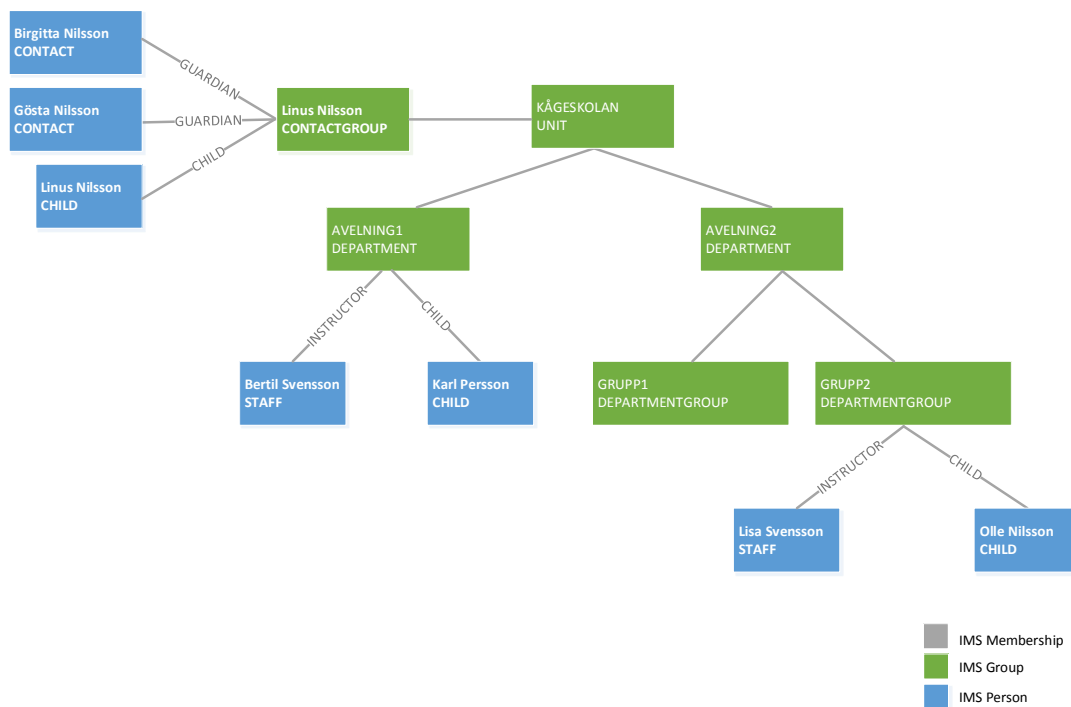
This table describes how childcare and school entities in Lifecare Education are mapped to IMS entities.

| 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. |
| ContactGroup | Group | Contact group for each child and student containing contacts, guardians and mentors |
| MentorGroup | Group | Group with a mentor and the students the mentor is responsible for |
| 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 principals. |

3.2 Examples of structures and mappings

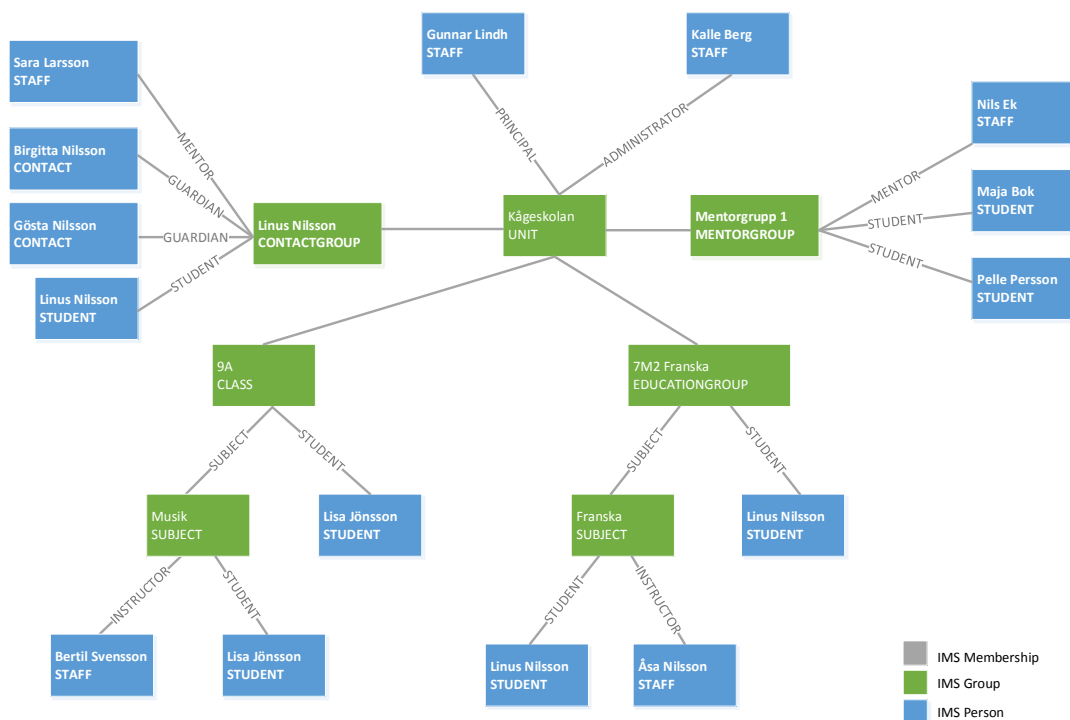
3.2.1 Preschool organization example

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



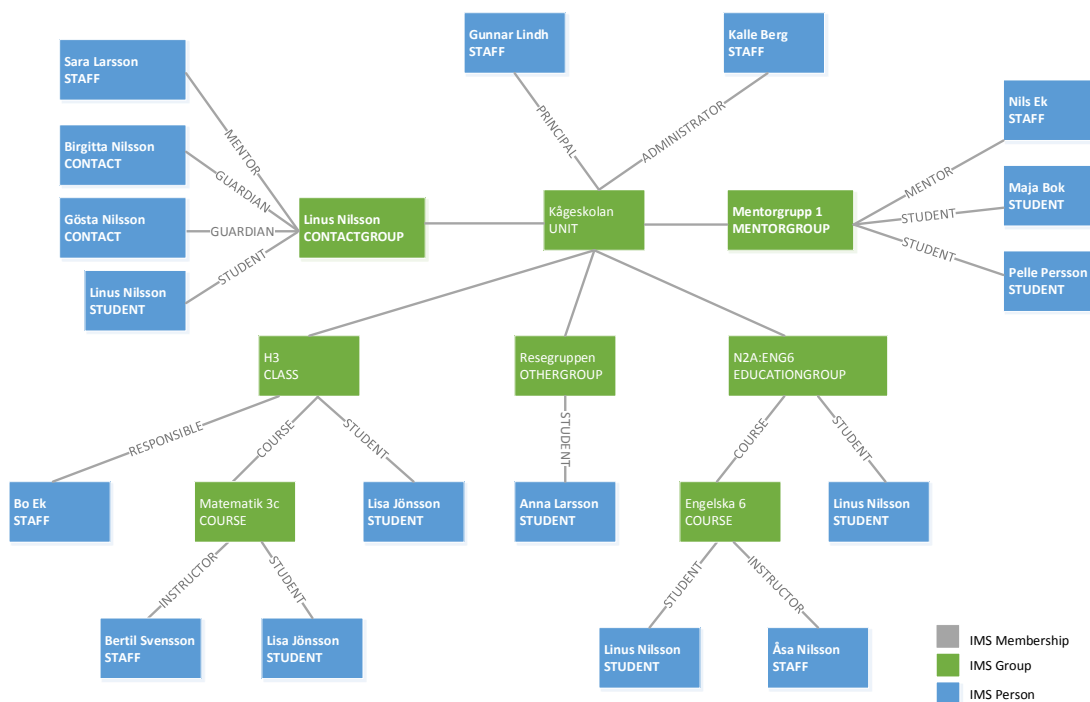
3.2.2 Compulsory school organization example

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 Upper secondary school organization example

The diagram below shows an example of how an upper secondary school 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 contains Lifecare, 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] |
| schooltype | Exported schooltype |

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

4.2.1 Person attributes

| Name | Description | Read-only |
|-------------------|--|-----------|
| sourcedid.id | The persistent unique identity of the person | 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 |
| adr.locality | The locality component of the address e.g., the City | No |

| Name | Description | Read-only |
|-------------------------------------|---|-----------|
| 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. SKV "Skatteverket" | Yes |
| recstatus | Indicator whether the person is added(1), updated(2) or deleted(3). This attribute is only valid in delta services. | 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 www.ski.se | No |
| municipalityname | Municipality name | Yes |
| timestamp | Date and time when person is created updated or deleted. | Yes |
| status | Source for address information. Normal The person is alive and lives in Sweden Deceased The person has deceased Emigrated The person has emigrated | 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 | Yes |

| Name | Description | Read-only |
|-----------------|---|-----------|
| programcode | Code for study for upper secondary school and higher vocational education, formatted [AAAAAAAAA], for more information see www.skolverket.se | Yes |
| schoolunitcode | School unit code | Yes |
| altadr.pcode | The post identity number for alternative address | Yes |
| altadr.street | The actual street address for alternative address | Yes |
| 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 |

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 |
| description.short | Group code or name. | Yes |
| grouptype.typevalue | The container for the type classification being assigned to the group. This is enumerated as Unit, Class, Subject, Course, OtherGroup, EducationGroup, ContactGroup, MentorGroup, Department and DepartmentGroup | Yes |

| Name | Description | Read-only |
|------------------------|--|-----------|
| 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, DepartmentGroup, Class, EducationGroup. The parameter is not used for Subject, Course, ContactGroup and MentorGroup. The begin date is included in the timeframe. | Yes |
| timeframe.end | Defines when group is intended to end. Formatted as [YYYY-MM-DD]. The end date is included in the timeframe. | Yes |
| recstatus | Indicator whether the group is added(1), updated(2) or deleted(3). This attribute is only valid in delta services. | 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 www.skolverket.se | Yes |
| hours | Education total hours for the course | Yes |
| subjectcode | Subject code | Yes |
| subjectname | Subject name | 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 www.skolverket.se | 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. In case of a mixed class (with more than one school year) the value of this attribute is a range in the format "<startyear>-<endyear>". | 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 units from preschool to higher vocational education

| Name | Description | Read-only |
|------------------|--|-----------|
| schooltype | School types at the unit, for more information see defined school types in this documentation. | Yes |
| csncode | CSN code for schools in Sweden, for more information see www.csn.se | 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 | No |
| pcode | The post identity number | No |
| street | The actual street address | No |
| locality | The locality component of the address e.g., the City | No |
| web | The school web address | No |
| municipalitycode | Municipality code, formatted [NNNN], for more information see www.skl.se | 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 |

| Name | Description | Read-only |
|-------------------|---|-----------|
| geographickeycode | Geographic key code. This is only used for preschool, leisure time centre, preschool class, compulsory school and compulsory school for learning disabilities. | Yes |
| id | Unit id | Yes |
| mainunitname | Main unit name | 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 |
|----------------------|---|-----------|
| complete | This is a Boolean flag | Yes |
| sourcedid.id | This is the persistent unique identifier assigned to the group structure for which the memberships are being defined. | 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, Principal, GradeAuthority, Unit, Class, Subject, Course, OtherGroup, EducationGroup, ContactGroup, MentorGroup, Department, DepartmentGroup and Responsible | Yes |

| Name | Description | Read-only |
|-----------------------------|--|-----------|
| 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 |
| member.role.recstatus | Indicator whether the role is added(1), updated(2) or deleted(3). This attribute is only valid in delta services. | 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. It is set in class-student relations | Yes |
| schoolunitcode | School unit code. It is set in unit-principal relations. The schoolunitcode property contains codes for all school units the principal is responsible for. | 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://\[host\]/WE.Education.Integration.Host/LES/Organization/V1/Organization.svc](https://[host]/WE.Education.Integration.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 eight years. |

Parameters – Alternative 2:

| Parameter | Mandatory | Description |
|------------|-----------|---|
| UnitId | Yes | Id for the school unit. Organization for all school units will be returned if UnitId 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 eight years. |

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 eight years. |

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.

By examining the attribute "complete" (which is false by default) on the memberships, the client can determine whether the members are the complete set of members within the membership (complete = true), or just the differences due to events occurring during the specified timeframe (complete = false),

Base path for services are:

[https://\[host\]/WE.Education.Integration.Host/LES/Organization/V1/Organization.svc](https://[host]/WE.Education.Integration.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 >= 5 minutes
- EndDate – StartDate <= 24 hours
- Current time – EndDate >= 5 minutes

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. |

5.2.1 Use Cases

Some use cases for delta export:

| Organization change | Indicated with |
|----------------------------|---|
| New school unit | - IMS group for the school unit (recstatus = 1) |
| New class | - IMS group for the class (recstatus = 1) |
| New education group | - IMS group for the education group (recstatus = 1) |
| New contact for student | <ul style="list-style-type: none"> - Complete IMS membership for the student's contact group (complete = true) - IMS persons for all contact persons - IMS group for contact group - IMS membership for student's contact group as member to its unit |
| Remove contact for student | <ul style="list-style-type: none"> - Complete IMS membership for the students contact group (complete = true) - IMS persons for all contact persons - IMS group for contact group - IMS membership for student's contact group as member to its unit |

| Organization change | Indicated with |
|---|---|
| New student in class | <ul style="list-style-type: none"> - The student as a member in the IMS membership for the class (recstatus = 1) - IMS person for student (recstatus = 1) |
| Remove student from class | <ul style="list-style-type: none"> - The student as member in IMS membership for relations between class and students (recstatus = 3) |
| New teacher in class | <ul style="list-style-type: none"> - The teacher as member in IMS membership for relations between course/subject in class and teacher (recstatus = 1) - IMS person for teacher (recstatus = 1) |
| Remove teacher from class | <ul style="list-style-type: none"> - IMS membership (recstatus = 3) |
| New teacher in educations group | <ul style="list-style-type: none"> - IMS membership for relations between course/subject in education group and teacher (recstatus = 1) - IMS person for teacher (recstatus = 1) |
| Remove teacher from education group | <ul style="list-style-type: none"> - IMS membership for relations between course/subject in education group and teacher (recstatus = 3) |
| Changed address information on contact person | <ul style="list-style-type: none"> - IMS person with new address information (recstatus = 2) |
| Changed information on school unit | <ul style="list-style-type: none"> - IMS group with new unit information (recstatus = 2) |
| Change principal for unit | <ul style="list-style-type: none"> - Complete IMS membership for the unit (complete=true) - IMS person for the principal |

5.3 Get Units

These services return the units for a specific school type.

Base path for services are:

[https://\[host\]/WE.Education.Integration.Host/LES/Organization/V1/Organization.svc](https://[host]/WE.Education.Integration.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 eight years. |

Services:

| Service | Description |
|---------------------------|----------------------------------|
| GetPedagogicalCareUnits | Units for pedagogical care. |
| GetPreSchoolUnits | Units for preschool. |
| GetLeisureTimeCentreUnits | Units for leisure time centre. |
| GetPreSchoolClassUnits | Organization for preschool class |

| Service | Description |
|---|---|
| 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://\[host\]/WE.Education.Integration.Host/LES/Organization/V1/Organization.svc](https://[host]/WE.Education.Integration.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 |

| Service | Description |
|--|---|
| 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 | http://www.imsglobal.org/enterprise/entv1p1/imsent_infov1p1.html |
| IMS Enterprise XML Binding Specification | http://www.imsglobal.org/enterprise/entv1p1/imsent_bindv1p1.html |
| IMS Enterprise Best Practices and Implementation Guide | http://www.imsglobal.org/enterprise/entv1p1/imsent_bestv1p1.html |
| Organization API XML schemas and examples | https://github.com/ExchangeServices/API |

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 [YYYYMMDDNNNN] |
| GUID | Global unique identifier |
| Other group | Non education groups |
| Education group | Student groups related to education course or subject depending on school types |
| Principal | Director of schools |