INTERNATIONAL STANDARD

# ISO/IEC 19778-3

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# Information technology — Learning, education and training — Collaborative technology — Collaborative workplace —

## Part 3: Collaborative group data model

*Technologies de l'information — Apprentissage, éducation et formation — Technologies collaboratives — Lieu de travail collaboratif —*

*Partie 3: Modèle de données du groupe collaboratif*



Reference number
ISO/IEC 19778-3:2008(E)

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# Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 19778-3 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 36, *Information technology for learning, education and training.*



ISO/IEC 19778 consists of the following parts, under the general title *Information technology — Learning, education and training — Collaborative technology — Collaborative workplace*:

— *Part 1: Collaborative workplace data model*



— *Part 2: Collaborative environment data model*

— *Part 3: Collaborative group data model*

 

# Introduction

ISO/IEC 19778 provides *Data Models* for specifying *collaborative workplaces* and their components. ISO/IEC 19778-1 provides general information for all parts, and specifies a *Data Model* which, by reference, composes the *Data Model instantiations* of the two main components of a *collaborative workplace*: the *collaborative environment* and the *collaborative group*. ISO/IEC 19778-2 provides the *Data Model* for the *collaborative environment* and specifies information related to the service aspects of a *collaborative workplace*. This part of ISO/IEC 19778 provides the *Data Model* for the *collaborative group* and specifies information related to the *roles* and the membership of a *collaborative workplace*.

The main accomplishment of this part of ISO/IEC 19778 is to specify the composition of the *roles* which can be played by the *participants* of a *collaborative group*, to declare the intended *role* holders (positions for playing a particular *role*) for each *role*, and (at least during the life-span of the *collaborative workplace*) to assign *participants* to these *role* holders.

The purpose of this part of ISO/IEC 19778 is:

— to provide a standardized way of defining and instantiating, as an independent entity, the composition of a collaborative group in terms of *roles* and *role* holders (this is done by associating this composition with a *collaborative group* identifier unique within a particular domain or application context);

— to specify the membership requirements of a *collaborative workplace* for the purpose of set-up, employment, management, administration, and evaluation of its *collaborative group.*



The detailed specification of the *roles* is not provided in this part of ISO/IEC 19778; however, it may be linked to the *collaborative group Data Model instantiations* by referring to "potential further specifications or standards" that are not identified and possibly do not yet even exist. (One of the intentions of this part of ISO/IEC 19778 is to encourage adopters to develop and harmonize such specifications.)

No reference to detailed specification of *participants* is provided in this part of ISO/IEC 19778 as multiple-purpose user management provisions are currently already in place and will be used.

Linkages to "potential further specifications or standards" are constituted by employing a "source/value" approach, where the value (e.g. the name of a *role*) is taken from a "source", a specification or standard, which declares the names and specifies the details of *roles*. The "source" itself is specified by reference, using a URL. The intention of this "source/value" approach is to provide a simple method for linking developing specifications or standards to the *Data Model* of this part of ISO/IEC 19778 without needing to identify them beforehand. This highly flexible method reflects the fact that ISO/IEC 19778-3 is a part of a multipart standard that represents prospective technology. Figure 1 illustrates how this is achieved.

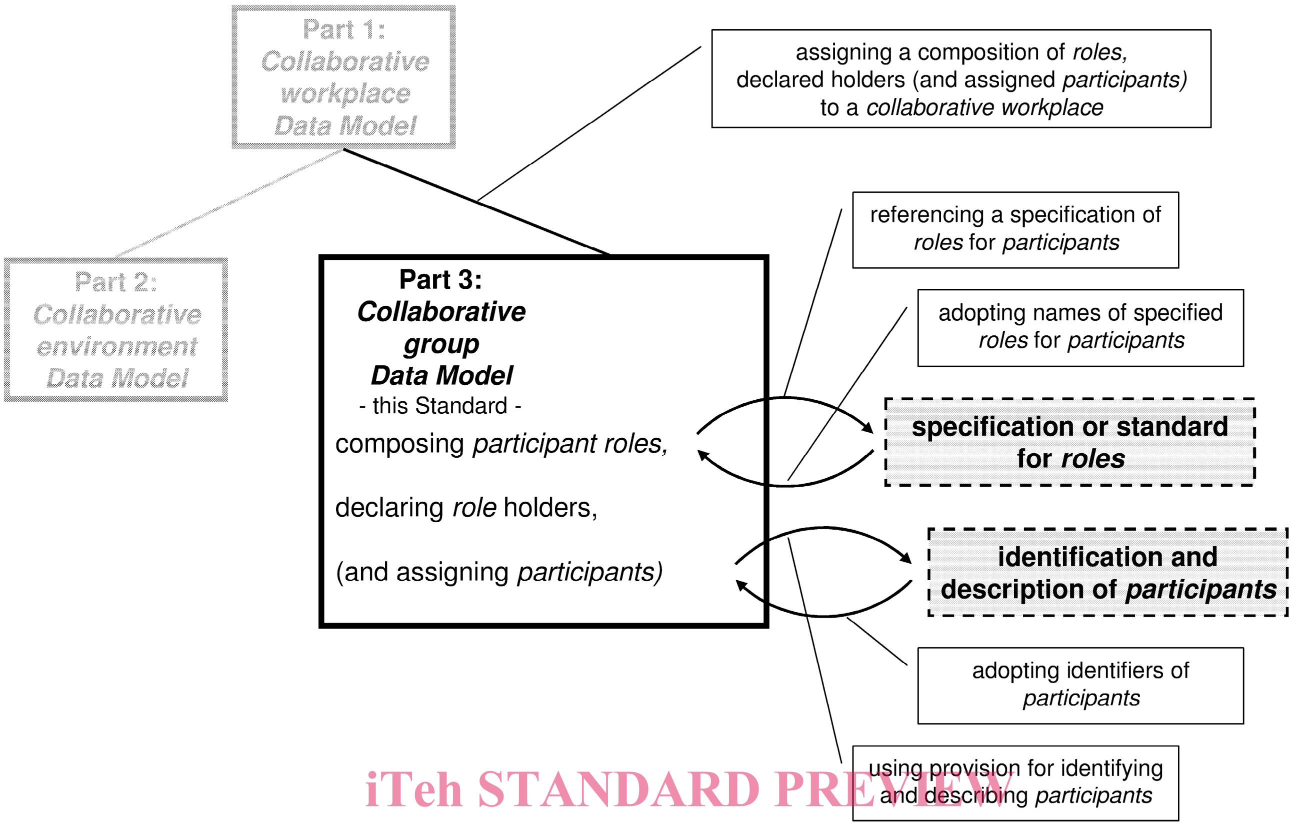




**Figure 1 — Composing *roles*, declaring *role* holders, and assigning *participants* in this part of ISO/IEC 19778**



In this part of ISO/IEC 19778, "composing *roles*" and "assigning *participants* to *role* holders" are generally performed by specifying names of *roles* and identifiers of *participants*. Further information on these *roles* and *participants* may be specified in "potential further specifications or standards" or in user management provisions which are not included in this part of ISO/IEC 19778. The adopters of this part of ISO/IEC 19778 may decide whether or not to use such "potential further specifications or standards" or provisions. If no "potential further specifications or standards" or *participant* identification provisions are used, the names and properties of *roles* and the identifiers of *participants* need to be consistently known in the user community. This, however, also means that the interoperability of *Data Model instantiations* of this kind is limited to this "harmonized" user community.

It should be noted that, where no *participants* are assigned to the *role* holders, the respective *collaborative group Data Model instantiation* can be reused as a template for setting up further *collaborative groups* of the same dedication. Also, due to the provision of *role* holder identifiers, anonymizing a *collaborative group Data Model instantiation* by removing the assigned *participant* identifiers does not affect the differentiation between *role* holders. This is important in cases where *role* holders of the *collaborative group Data Model instantiation* are referenced by other data objects.

Where the need for broader interoperability exists, external "specifications or standards" are required. They would at least define a set of *roles* or a method for identifying *participants* and information on them, provide names for *roles*, and describe their properties. Of course, "specifications or standards" for *roles* could be very simple and general. However, they could be highly sophisticated and detailed as well. Where a *collaborative group Data Model instantiation* makes use of such an external "specification or standard" for *roles*, it references it and adopts the *role* names as shown in Figure 1.

Using this first edition of this part of ISO/IEC 19778 provides utmost flexibility at the risk of a low level of interoperability. It allows adopters to experiment with diverse specifications for *roles* or methods for identifying *participants* and providing information on them. It is intended as a step towards broader harmonization of such specifications or provisions. This expected progress in harmonization will be reflected by future editions of this part of ISO/IEC 19778, while today's users can employ this first edition instantly.

 

# Information technology — Learning, education and training — Collaborative technology — Collaborative workplace —

# Part 3: Collaborative group data model

## 1 Scope

### 1.1 Statement of scope

This part of ISO/IEC 19778 specifies the *Data Model* for a *collaborative group*.

The *collaborative group Data Model* composes *roles* which can be played by the *participants* of a *collaborative group*, declares the intended *role* holders (positions for playing a particular *role*) for each *role*, and (at least during the life-span of the *collaborative workplace*) assigns *participants* to these *role* holders. The *role* names may be used as references to *roles* specified in detail by further specifications or standards. Where no such specifications or standards are available or identified, the provision of descriptions for human interpretation may support harmonized use of these names. Provided *participant* identifiers may be used as references to detailed *participant information* which may be specified in a provided user management system.



NOTE There is a risk of improper access and misuse of personal and private data facilitated by use of the *collaborative group Data Model*. It is the responsibility of the implementer to ensure proper use of any involved personal information.



### 1.2 Subjects and aspects not currently addressed

In future editions of this part of ISO/IEC 19778, the identification of *participant* types referring to a harmonized or standardized *participant* typology may be provided. Such a provision would upgrade the value of anonymized *collaborative group Data Model instantiations* for being reused as templates.

Currently, the *collaborative groups* specified by this *Data Model* are static. *Participants* may not be online all the time; in a *collaborative group*, private discussions may occur; *participants* may leave the *collaborative group* during the life-state of the *collaborative workplace*. It is not yet clear to which degree such aspects can and should be addressed in future editions of this part of ISO/IEC 19778.

### 1.3 Excluded subjects and aspects

Subjects and aspects not provided by this part of ISO/IEC 19778, but which it is anticipated will be provided by further specifications or standards include:

— the detailed specification of *roles* or *role* typologies in the context of learning, education and training (such specification is reserved for further specifications or standards; it may be specific for particular domains of applications in this field; such specifications are excluded from this part of ISO/IEC 19778);

— methods for assigning *collaborative tools* or *collaborative functions* of a *collaborative workplace* to *participants* in particular *roles* (such methods mean optimization for mapping capabilities and requirements of technical means to capabilities and preferences of *participants*; such methods are excluded from this part of ISO/IEC 19778);

— the detailed specification of *participant* information (such specification is reserved for further specifications or standards and is excluded from this part of ISO/IEC 19778).

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 10646:2003, *Information technology — Universal Multiple-Octet Coded Character Set (UCS)*

ISO/IEC 11404:2007, *Information technology — General-Purpose Datatypes (GPD)*

ISO/IEC 19778-1:2008, *Information technology — Learning, education and training — Collaborative technology — Collaborative workplace — Part 1: Collaborative workplace data model*

ISO/IEC 24703:2004, *Information technology — Participant Identifiers*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19778-1:2008 apply.

## 4 Abbreviations and acronyms

NOTE Some of the abbreviations or acronyms in this clause represent terms defined in Clause 3 of ISO/IEC 19778-1:2008. The term numbers are provided in brackets.



AE Aggregating Element (see 3.1.1)

CG Collaborative Group (see 3.2.5)

CW Collaborative Workplace (see 3.2.8)

DE Data Element (see 3.1.5)

DM Data Model (see 3.1.7)

DME Data Model Element (see 3.1.8)

ID Identifier

RE Root Element (see 3.1.19)

Ref Reference

URI Uniform Resource Identifier

URL Uniform Resource Locator (world wide web address)

## 5 Collaborative group Data Model

### 5.1 Data Model representation

The table-based *Data Model* representation used here corresponds to the specification provided in ISO/IEC 19778-1:2008, 5.1.

 

## 5.2 Collaborative group Data Model diagram

Figure 2 provides a relational overview for the *collaborative group Data Model* as specified in this part of ISO/IEC 19778. This diagram also indicates specifications or standards which are as of yet unidentified and out of scope for this part of ISO/IEC 19778, but which may play a significant role in its implementation.

The *Data Model* is outlined inside the large dashed box. The *Root Element* on top represents the basis for this *Data Model* and is not represented in the table representation. The indices of the branches are denoted.

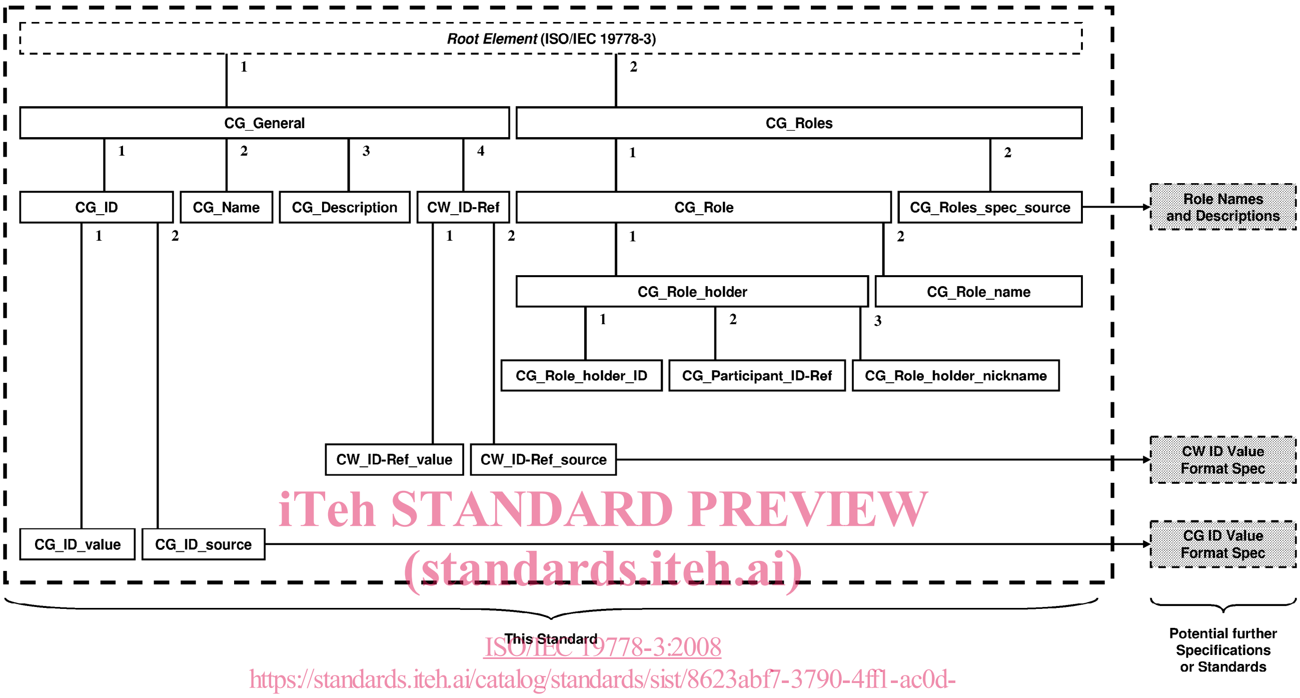




**Figure 2 — *Collaborative group Data Model* and external specifications**

Three potential further specifications or standards are denoted as grey boxes outside the large dashed box to the right. The arrows from the *DMEs* to these boxes represent references from this *Data Model* to such specifications or standards. Where such specifications or standards are referenced, they impose regulations on "value" or "name" *DMEs* as specified in the Datatype column of the *Data Model* table in 5.3.

## 5.3 Collaborative group Data Model specification

The following specification of the *Data Model* uses the tabular representation specified in ISO/IEC 19778-1:2008, 5.1.

**Table 1 — *Collaborative Group Data Model***

| Identifier | Designation | Definition | Obligation | Multiplicity | Datatype | Examples |
|---|---|---|---|---|---|---|
| 1 | CG_General | This *Aggregating Element* groups the general information that describes this *collaborative group* as a whole. | *mandatory* | 1 | | |
| 1.1 | CG_Name | *Collaborative group* name | *optional* | 1 | ISO/IEC 11404:2007, 10.1.5 "Character string (ISO/IEC 10646:2003)"<br>Supported Length = 100 characters | Group 3 |
| 1.2 | CG_Description | *Collaborative group* description | *optional* | 1 | ISO/IEC 11404:2007, 10.1.5 "Character string (ISO/IEC 10646:2003)"<br>Supported Length = 4000 characters | Group for collaborative work on Computer Graphics exercises |
| 1.3 | CG_ID | *Collaborative group* identifier | *mandatory* | 1 | | |
| 1.3.1 | CG_ID_source | The name or URI of the identification scheme used to generate the value of the *collaborative group* identifier. A namespace scheme. | *optional* | 1 | ISO/IEC 11404:2007, 10.1.5 "Character string (ISO/IEC 10646:2003)"<br>Supported Length = 250 characters | http://www.gris.informatik.tu-darmstadt.de/idformats/group-identifiers.pdf |

| Identifier | Designation | Definition | Obligation | Multiplicity | Datatype | Examples |
|---|---|---|---|---|---|---|
| 1.3.2 | CG_ID_value | Value of the *collaborative group* identifier | *mandatory* | 1 | ISO/IEC 11404:2007, 10.1.5 "Character string (ISO/IEC 10646:2003)"<br>Supported Length = 250 characters<br>Permissible values shall comply with any specification or standard identified by the reference value in *DE* 1.3.1 (if provided). | de_tu-darmstadt_informatik_gris_20060711_15061154 |
| 1.4 | CW_ID-Ref | *Collaborative workplace* identifier reference | *optional* | 1 | | |
| 1.4.1 | CW_ID-Ref_source | The name or URI of the identification scheme used to generate the value of the *collaborative workplace* identifier reference. A namespace scheme. | *optional* | 1 | ISO/IEC 11404:2007, 10.1.5 "Character string (ISO/IEC 10646:2003)"<br>Supported Length = 250 characters | http://www.gris.informatik.tu-darmstadt.de/idformats/identifier_type.pdf |
| 1.4.2 | CW_ID-Ref_value | Value of the *collaborative workplace* identifier reference; the corresponding *collaborative workplace* identifier is specified in *Data Element* "ISO/IEC 19778-1:2007, 1.3.2". | *mandatory* | 1 | ISO/IEC 11404:2007, 10.1.5 "Character string (ISO/IEC 10646:2003)"<br>Supported Length = 250 characters<br>Permissible values shall comply with any specification or standard identified by the reference value in *DE* 1.4.1 (if provided). | de_tu-darmstadt_informatik_gris_20060910_10141733 |