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**Language resource management —  
Semantic annotation framework  
(SemAF) —**

**Part 2:  
Dialogue acts**

*Gestion des ressources langagières — Cadre d'annotation sémantique  
(SemAF) —*

*Partie 2: Actes de dialogue*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 37, *Language and terminology*, Subcommittee SC 4, *Language resource management*.

This second edition cancels and replaces the first edition (ISO 24617-2:2012), which has been technically revised.

The main changes compared to the previous edition are as follows:

- in [6.2](#), ‘reference segments’ are introduced to allow more accurate annotations of feedback dependence relations;
- in [6.3](#), a more detailed way of annotating rhetorical relations between dialogue acts is made possible by importing concepts from ISO 24617-8:2016 (DR-core);
- in [7.2](#), the Contact Management dimension, known from the DIT++ annotation scheme, and the Task Management dimension, known from the DAMSL annotation scheme, have been added, along with a few communicative functions specific for contact management;
- in [7.5](#) and [Annex D](#), a possibility is introduced for importing elements from the W3C recommendation EmotionML in order to add affective information to dialogue acts;
- in [Clause 9](#) and [Annex D](#), the mechanism of ‘triple-layered annotation scheme plug-in’ with ‘plug-in interface’ is introduced; this mechanism allows the dialogue act annotation to be customized, using application-specific concepts, and to be enriched with semantic content information.

A list of all parts in the ISO 24617 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

Since its publication in 2012, ISO 24617-2 has been used in a number of annotation efforts as well as in the development of language-based interactive systems. These experiences have brought to light

- that the standard allowed dialogue act annotations that are slightly inaccurate in some respects,
- that some applications would benefit from the availability of mechanisms for customizing the set of concepts defined in the standard, and
- that certain use cases require the representation of functional dialogue act information to be extended with semantic content information.

This second edition seeks to remedy the noted inaccuracies, and to provide mechanisms

- a) for customizing the set of defined concepts, and
- b) for extending the information types in dialogue act annotations.

The improved accuracy of this second edition concerns the annotation of semantic dependence relations of dialogue acts and their scopes, and of rhetorical relations between dialogue acts. The mechanisms for extending and customizing the standard for a specific application concern most notably the annotation of information about the (domain-specific) semantic content of dialogue acts, the introduction of application-specific dialogue act types, the addition of communicative functions for fine-grained specification of feedback, and the annotation of speaker emotions.

This second edition is downward compatible with the original ISO 24617-2:2012 in the sense that every annotation made with the original version is a valid annotation according to the second edition. Existing annotations do not need to be revised in order to be compliant with this second edition.

# Language resource management — Semantic annotation framework (SemAF) —

## Part 2: Dialogue acts

### 1 Scope

This document provides a set of empirically and theoretically well-motivated concepts for dialogue annotation, a formal language for expressing dialogue annotations (the Dialogue Act Markup Language, DiAML), and a method for segmenting a dialogue into semantic units. This allows the manual or automatic annotation of dialogue segments with information about the communicative actions which the participants perform by their contributions to the dialogue. The annotation scheme specified in this document supports multidimensional annotation of spoken, written, and multimodal dialogues involving two or more participants. Dialogue units are viewed as having multiple communicative functions in different dimensions. The markup language DiAML has an XML-based representation format and a formal semantics which makes it possible to perform inferences with DiAML representations. This document also specifies data categories for dimensions of dialogue analysis, for communicative functions, for dialogue act qualifiers, and for relations between dialogue acts. Additionally, it provides mechanisms for customizing these sets of concepts, extending them with application-specific or domain-specific concepts and descriptions of semantic content, or selecting relevant coherent subsets of them. These mechanisms make the dialogue act concepts specified in this document useful not only for annotation but also for the recognition and generation of dialogue acts in interactive systems.

### 2 Normative references

There are no normative references in this document.

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1

##### addressee

*dialogue (3.5) participant (3.13) oriented to by the sender (3.20) in a manner to suggest that his/her utterances (3.25) are particularly intended for this participant, and that some response is therefore anticipated from this participant, more so than from the other participants*

Note 1 to entry: This definition is a *de facto* standard in the linguistics literature.

[SOURCE: Reference [34], modified - 'speaker' replaced by 'sender', and use of ambiguous pronouns avoided.]