Bundesamt für Raumplanung
Office fédéral de l'aménagement du territoire
Ufficio federale della pianificazione del territorio
Uffizi federal da planisaziun dal territori

Eidg. Justiz- und Polizeidepartement
Département fédéral de justice et police
Dipartimento federale di giustizia e polizia
Departament federal da giustia e polizia

Eidgenössische Vermessungsdirektion
Direction fédérale des mensurations cadastrales
Direzione federale delle misurazioni catastali
Direcziun federala da mesiraziun

Kompetenzzentrum INTERLIS/AVS
Centre de compétence INTERLIS/IMO
Centro di competenza INTERLIS/IMU
Center da cumpetenza INTERLIS/IMU

Glossary
for INTERLIS and AVS

Document: 8740, ILI Glossary 2.7e
Version: 25 May 1999, supersedes that of 3 January 1998
Status: -
Classification: free
Author(s): H.R. Gnägi and S. Keller
Distribution: FDCS internal, CC INTERLIS/AVS

Notes and abbreviations

Abbrev. Abbreviation

Def. Definition.

Syn. Synonym.

IDef The reference to Idef, e.g. "IDef 2.2.3.6" signifies that further information on this term can be obtained from section 2.2.3.6 of the INTERLIS reference document (FDCS - Federal Directorate of Cadastral Surveying (1991/1997): "INTERLIS - a data exchange mechanism for land information systems", INTERLIS Version 1 Revision 1, FDCS, Bern).

Attribute [german: Attribut]
: Description of a specific property of → objects in a → table (IDef 2.2.3.6). See also → identification.

AV93
: German abbrev. for → Official Cadastral Surveying 1993 [german: Amtliche Vermessung 1993].

AV93 data [german: AV93-Daten]
: Data from → AV93, mostly in digital form.

AVS data [german: AVS-Daten]
: → AV93 data in the → AVS transfer format.

AVS transfer file [german: AVS-Transferdatei]
: → INTERLIS transfer file containing data from the → basic data set of AV93.

AVS transfer format [german: AVS-Transferformat]
: → INTERLIS transfer format of the → basic data set of AV93.

Basic data set [german: Grunddatensatz]
: "All the data recorded by the Official Cadastral Surveying department make up the basic data set" (VAV, [Regulation on Official Cadastral Surveying] Art 6 "Basic Data Set and Information Levels", para. 1). The basic data set is defined by the data schema in INTERLIS in Annex A of → TVAV.

CAD
: Abbrev. for Computer Aided Design.

Centroid
: Ambiguous syn. → reference point (of a surface).

Comment [german: Kommentar]
: Syn. → INTERLIS comment.

Complete data transfer [german: Vollständiger Datentransfer]
: → Data transfer of a complete → database state from the → sender to the → target system.

Conceptual formalism [german: Konzeptioneller Formalismus]
: Methods for creating a conceptual → data schema.

  Syn. data model.

Conversion program [german: Konversionsprogramm]
: Syn. → data exchange program.

Converter [german: Konverter]
: Syn. → data exchange program.

Data description language (DDL) [german: Datenbeschreibungssprache]
See Information Technology for def.

Syn. conceptual schema language (CSL).

Data exchange [german: Datenaustausch]
→ Data transfer in both directions between two databases. Comment: A distinction is made between model-based data exchange, format-based data exchange and bilateral data exchange through reformatting.

Data exchange program [german: Datenaustausch-Programm]
Program for exporting and importing data.

Syn. converter, translator, conversion program, migration program.

Data model [german: Datenmodell]
Ambiguous syn. → data schema, (e.g. in IDef 1 and 2.2.3.3 and in SIA405 Definition 1 3 9) and for → conceptual formalism (customary in database theory).

Data object [german: Datenobjekt]
Data associated with a real world object.

Syn. object entity, tuple.

Comment: See also → INTERLIS object.

Data schema [german: Datenschema]
Description of the content and structure of data that characterize an application-specific part of reality, and of the applicable rules.

Syn. schema, often also → data model.

Comment 1: Plural: data schemata, sometimes also data schemas.

Comment 2: Depending on the level of abstraction at which the data are described, a distinction is made between the conceptual schema, the logical schema and the physical schema. Appropriate → data description languages are available for formulating a data schema.

Comment 3: For → databases, the logical schema corresponding to the conceptual schema and formulated according to the system-specific structural options is also known as an internal schema. Logical or physical schemata referring to peripheral equipment items or exchange files are also often called external schemata or format schemata.

Data supply [german: Nachlieferung]
→ Complete or → incremental → data transfer from the → primary database to a → secondary database.

Comment 1: D. always occurs sequentially, i.e. a secondary database must never receive several d. at the same time.

Comment 2: See also → modification.

[f: livraison complémentaire]

Data transfer [german: Datentransfer]
Moving of data from one database S to another database T. S is termed the source system, sender system, sender or export system, while T is the target system, import system or recipient. The data are "exported" from system S and "imported" by system T.

Syn. transfer, sometimes also data transmission.

Data transfer mechanism [german: Datentransfer-Mechanismus]
(Conceptual) → data description language and (physical) → transfer format and rules for deriving such a transfer format of a data structure described by the → data description language.

Data transmission [german: Datenübertragung]
Syn. → data transfer.

Database [german: Datenbank]
Logical administration unit for the processing and permanent storage of objects.

Comment: Several databases can be managed on one → system. Alternatively, one database can be distributed across several systems.

Database status [german: Datenbankzustand]
Designated status of a database.

Comment: A database is converted from one database status to the next by a → modification.

DDL
Abbrev. for → Data Description Language.

Default [german: Default]
Syn. → default value.

Default value [german: Defaultwert)
1. Proposal for the coding of specific data, particularly of control characters in the → INTERLIS transfer file (e.g. → Undefined value, End of physical line, etc.). The keyword DEFAULT (IDef 2.2.10) is used for this purpose in → IDDL.

2. Tagged value from the range for an → attribute. This default value is specified in a → comment or → INTERLIS explanation of the → data schema.

Syn. Standard value, specified value.

Comment 2.1: The default value for optional or mandatory attributes can be regarded as a supplement to the data description, e.g. as an indication of the normal case or as an indication of the settings during data entry.

Comment 2.2: The transfer file has no special coding for this default value. In particular, the character for the → undefined value may only be used if the value of an optional attribute for an object is not present or is not known.

Derivation [german: Auswertung]
Function or selection of data (derived data).

Comment 1: In → IDDL the keyword DERIVATIVES is available for derivation (IDef 2.2.7).

Comment 2: An derivation defines data that are not new. Example 1: Building for which area dimensions only are to be transferred and not the full geometrical layout.

Example 2: Result of an intersection. See also → view.

DXF
Abbrev. for Data eXchange Format. → Transfer format for graphic data in vector form. System-specific, widely-used transfer format of the CAD system AutoCAD™.

Entity [german: Entität]
Syn. → object.

Entity set [german: Entitätsmenge]
Syn. → table.

Explanation [german: Erläuterung]
Syn. → INTERLIS explanation.

Export system [german: Ausgabesystem]
Def. → data transfer.

FDCS [german: Eidg. Vermessungsdirektion]
Abbrev. for Federal Directorate of cadastral surveying.

File [german: Datei]
: See Information Technology for def.
: Syn. Datei [german], fichier [french].

Fixed INTERLIS transfer format [german: Fixes INTERLIS-Transferformat]
: Def. → INTERLIS transfer format.

Format [german: Format]
: Syn. → transfer format, occasionally also for → INTERLIS transfer format.

Free INTERLIS transfer format [german: Freies INTERLIS-Transferformat]
: Def. → INTERLIS transfer format.

GDS [german: "Grunddatensatz"]
: German abbrev. for → basic data set.

General identification [german: Allgemeine Identifikation)
: → Identification that uniquely identifies an → object on all relevant → systems of a → transfer community.

Geodata [german: Geodaten]
: Syn. geographically referenced data. [f: géodonnées]

GID
: Abbrev. for → global identification.

Global identification (GID) [german: Globale Identifikation]
: Def. → identification.

IDDL
: Abbrev. for INTERLIS Data Description Language.

IDef
: Abbrev. for INTERLIS definition in the document: "INTERLIS - a data exchange mechanism for land information systems", FDCS, Bern, 31.10.1991.

Identification [german: Identifikation]
: → Attribute or attribute combination, whose value uniquely identifies an → object in its → table. Within an → INTERLIS transfer file each object receives an identification, in addition to the attributes described in the → data schema, that uniquely identifies the object within the transfer file, otherwise known as transfer identification (TID). If such a TID is → general and → stable, it is known as a → global identification (GID).

Incremental data transfer [german: Inkrementeller Datentransfer]
: → Data transfer of the difference between two → database states from the → sender to the → target system.

Incremental supply [german: Inkrementelle Nachlieferung]
: → supply, → incremental data transfer. Syn. differential update.
: [f: livraison complémentaire incrémentielle]

Information layer [german: Informationsebene]
: Syn. → topic.

INTERLIS
: → Data transfer mechanism for geodata consisting of the → INTERLIS data description language (IDDL) and the → INTERLIS transfer format (ITF), and rules for deriving the ITF for a data structure described with IDDL. IDDL, ITF and implementation rules are defined in the document: "INTERLIS - a data exchange mechanism for land information systems", FDCS, Bern, 31.10.1991, or in the Swiss standard SN612030 available at SNV, Zürich. (Known as IDef for short).

INTERLIS comment [german: INTERLIS-Kommentar]
: → IDDL language element: auxiliary text following double exclamation marks "!!".

Example: !! This is an INTERLIS comment (IDef 1).

Syn. comment.

INTERLIS compiler [german: INTERLIS-Compiler]

Program that derives the description of the relevant → ITF from a → data schema in the → INTERLIS data description language. The syntactic accuracy of the data schema is also checked at the same time (parsing). See IDef 4.

INTERLIS data description language (IDDL) [german: INTERLIS-Datenbeschreibungssprache]

(Conceptual) data description language of the → INTERLIS → data transfer mechanism.

Comment: A → data schema described in IDDL can be stored as a (text) file. The abbreviation "ILI" is normally used as a filename extension for such files. Example: The GDS schema file is called GDS.ILI.

INTERLIS explanation [german: INTERLIS-Erläuterung]

→ IDDL language element: text describing special properties and consistency constraints. This text has to be enclosed in double forward slashes "//" andmust not contain forward slashes (IDef 2.2.1.4).

Syn. Constraint.

Comment: The → INTERLIS compiler treats INTERLIS explanations as comments, although they can also be formalized in greater detail in order to render them amenable to more extensive computer processing.

INTERLIS object [german: INTERLIS-Objekt]

→ Data object in an → INTERLIS transfer file, i.e. all data in an INTERLIS table referring to an object in the real world (these data appear on a logical OBJE → line), incl. any additional geometric data (STPT...ELIN, LATT).

INTERLIS specification / documentation [german: INTERLIS-Spezifikation / Dokumentation]

Document "INTERLIS - a data exchange mechanism for land information systems" (FDCS, Bern, 31.10.1991) and INTERLIS compiler (according to TVAV, Art 42 para. 2).

INTERLIS transfer file [german: INTERLIS-Transferdatei]

File in the → INTERLIS transfer format.

Comment 1: Since the INTERLIS transfer format (ITF) depends on the structure of the data contained therein (the ITF can be derived from the description of the corresponding data schema in IDDL), an INTERLIS transfer file for data schema xxx is often referred to as xxx transfer file. Example: An INTERLIS transfer file for the AVS data schema (i.e. with data from the → basic data set) is often known as an → AVS transfer file.

Comment 2: The abbreviation "ITF" can usefully be used as a filename extension. Example: AVSTDS.ITF is the file name of the AVS test data set.

INTERLIS transfer format (ITF) [german: INTERLIS-Transferformat]

Transfer format for the → INTERLIS → data transfer mechanism (IDef 2.2.9 and 3.2).

Comment: A distinction is made between fixed and free INTERLIS transfer formats. In the fixed format, each data field has a fixed length according to the maximum (or minimum) value of the relevant attribute if this is numerical, or according to the maximum length if a chain of characters is involved. In the free INTERLIS transfer format, the data fields contain the characters of an attribute value without leading and trailing blanks, and are separated from each other by at least one blank space. Blanks inside a data field have to be replaced by a place holder, whose default value is the underscore “_”.

ITF

Abbrev. for → INTERLIS transfer format.

Layer [german: Ebene, lLayer]

Ambiguous syn. → information layer, → topic.

Standard term used in CAD for the summary of graphical data of a particular type. Also occasionally used in GIS for → topic.

Model [german: Modell]

Ambiguous syn. for → data model, → data schema.

For other meanings of model see Information Technology for def.

Modification [german: Fortführung / Nachführung)

Adaptation of a database to modified circumstances in the reality to be portrayed. M: occurs by → updates.

Syn. continuation (Nachführung Germany/Switzerland, Fortführung Germany/Austria, mise à jour French).

Comment 1: In → AV93 a distinction is made between ongoing and periodic m., In ongoing m., the data are updated immediately after the change has occurred. In periodic m., the data are updated periodically (e.g. every 10 years) to match the actual circumstances.

Comment 2: Tracking of a → primary database causes the transition from one → database status to the next. The updates on the primary database can be performed contemporaneously in parallel. In the event of parallel updates, the primary database must ensure consistency of the result.

Comment 3: Tracking of a → secondary database occurs through updates based on data from a → data supply. These updates are always performed sequentially.

Comment 4: See also → data supply.

[f: mise à jour, d: Nachführung [germany/Switzerland), Fortführung [germany/Austria)]

Object [german: Objekt]

Syn. → data object, → real world object.

Official Cadastral Surveying [german: amtliche Vermessung, AV)

→ Official Cadastral Surveying 1993.

Official Cadastral Surveying 1993 [german: amtliche Vermessung 1993, AV93)

Official Swiss survey, basis for land information and geoinformation systems and for the Swiss land register, established by → VAV and → TVAV. Result of → RAV.

Official Cadastral Surveying Interface [german: Amtliche Vermessungsschnittstelle, AVS]

The AVS consists of the → INTERLIS → data transfer mechanism and the → basic data set of the Official Cadastral Surveying department.

Optional [german: optional, fakultativ]

Need not necessarily be present. Opposite: Non-optional, i.e. mandatory, obligatory.

Comment 1: → Tables or → attributes can be optional. The keyword OPTIONAL is available in → IDDL (IDef 2.2.x).

Comment 2: In IDDL "not necessarily present" refers to the transfer file, i.e. the attribute values normally have to be recorded, unless instructed otherwise.

Polyline [german: Linienzug]

Sequence of points and description of how consecutive points are linked.

Comment: If the → objects of a → table are polylines, these can be described in → IDDL by the attribute type POLYLINE (IDef 2.2.6).

Postprocessor [german: Postprozessor]

Part of a → data exchange program that manages the import of the data from the → transfer file to the internal presentation of a database.

Syn. → import processor.

Preprocessor [german: Präprozessor]
: Part of a → data exchange program that manages the export of the data from the internal presentation of a → database to the → transfer file.

  Syn. → export processor.

RAV
: German abbrev. for reform of official cadastral surveying [german: “Revision der amtlichen Vermessung”). See also → AV93.

Recipient, receiving system [german: Empfänger, Empfängersystem]
: Def. → data transfer.

Record [german: Zeile]
: In an → INTERLIS transfer file a distinction is made between logical and physical records. A logical r. contains an → INTERLIS object (with additional geometric data, e.g. STPT...ELIN). The r. in the INTERLIS transfer file are known as physical r. A logical r. can be subdivided into several physical r. See → INTERLIS specification for details.

Record identifier [german: Zeilenkennzeichnung]
: First four characters of a (physical) → record in the → INTERLIS transfer file, excluding the records describing the content between the records marked "SCNT" and "////" and excluding the records of the conceptual schema between "MOTR" and "////".

Reference point (of a surface) [german: Referenzpunkt (einer Fläche)]
: Inner point of the → surface (IDef 2.2.6)

  Syn. centroid, area reference point.

Schema [german Schema]
: Syn. → data schema. (plural: schemata, sometimes also schemas).

Sender [german: Sender]
: Def. → data transfer.

Source [german: Quelle]
: Def. → data transfer.

Stable identification [german: Stabile Identifikation]
: → Identification independent of time, i.e. that cannot be altered during the lifecycle of an → data object. The stable identification of deleted data objects must not continue to be used.

Surface [german: Fläche, Einzelfläche]
: Compact and coeherent planar point set bounded by → polylines.

  Comment 1: To describe surfaces → IDDL uses the geometric attribute type SURFACE (IDef 2.2.6).

  Syn. Polygon.

  Comment 2: An → tile is a surface with additional properties

System [german: System]
: Total of all components belonging to a computer system (hardware and software) used for a specific purpose.

Table [german: Tabelle]
: Set of objects with identical properties. Each property is described by an → attribute.

  Syn. entity set, object type, feature type, sometimes also object class, feature class and class.

  Comment: → IDDL uses the keyword TABLE (IDef 2.2.3.5).

Target system [german: Zielsystem]
Def. → data transfer.

Tessellation [german: Gebietseinteilung]
Set of surfaces covering a specific planar region without holes and overlaps. The surfaces of an t. are called → tiles.

Comment: If the → data objects of a → table are surfaces of a t., the geometric attribute type AREA is available in → IDDL for their description (IDef 2.2.6)

Tile [german: Gebiet]
→ Surface of an → tessellation.

Tile reference point [german: Gebietsreferenzpunkt]
Syn. → reference point (of a surface).

Topic [german: Thema]
Ordered collection of → tables (IDef 2.2.3.4).

Syn. information layer, often also imprecisely: → layer.

Comment 1: As far as data transfer is concerned, the topics are completely independent of each other.

Comment 2: TOPIC is the keyword used in → IDDL to describe topics.

Comment 3: N.B.: The term "layer" commonly used in CAD refers to a summary of graphical data. A topic can cover several (graphical) layers and additional structured thematic data.

Transfer [german: Transfer]
Syn. → data transfer.

Transfer file [german: Transferdatei]
→ File prepared for → data transfer in an appropriate → transfer format.

Transfer format [german: Transferformat]
Structure of a → transfer file by subdivision into data fields.

Syn. format.

Comment: See also → INTERLIS transfer format.

Translation program [german: Übersetzungsprogramm]
Syn. → data exchange program.

Tupel [german: Tupel]
Syn. → data object.

TVAV

German abbrev. for the document "Technical Regulation on Official Cadastral Surveying", FDCS, Bern, 10 June 1994 [german: “Technische Verordnung der amtlichen Vermessung”).

Undefined value [german: Undefiniertwert]
Value of an → optional → attribute, if its value is not present, or not known, for an → data object.

Syn. undefined character, null value.

Comment 1: INTERLIS normally uses the AT character "@" (ASCII 0x40) for an undefined value (IDef 2.2.10).

Comment 2: Only attributes tagged as OPTIONAL in the data schema may show an undefined value (IDef 3.4.4). If an undefined value is assigned to an attribute without the OPTIONAL tag, an error message appears.

Comment 3: If an undefined value is present in optional attributes, the undefined value must be retained by the target system.

Comment 4: The undefined value may not be used as a → default value.

Update [german: Mutation]
: Consistency-preserving modification of data in a → database.

VAV
: German abbrev. for the document "Regulation on Official Cadastral Surveying", FDCS, Bern, 18 November 1992 [german: “Verordnung über die amtliche Vermessung”).

View [german: Sicht[
: Arrangement on the → INTERLIS transfer file of the data described by a → data schema or by an → derivation.

  Comment: Definition is made with the → IDDL keyword VIEW (IDef 2.2.8).

***