INTERNATIONAL STANDARD

ISO 18618

Second edition
2022-09

Dentistry — Interoperability of CAD/CAM systems

Médecine bucco-dentaire — Interopérabilité des systèmes de CFAO

Reference number
ISO 18618:2022(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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).

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).

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.

This document was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 9, *Dental CAD/CAM systems,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 55, *Dentistry,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 18618:2018), which has been technically revised.

The main change compared to the previous edition is: the XML schema for IDS (interface for dental CAD/CAM systems) and the examples of interoperability of dental products relating to dental implant systems, removables, dental appliances and orthodontics have been updated in Annex A due to the fast nature of the software system innovation and the need for ongoing testing.

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.

Introduction

Manufacturers of dental CAD/CAM systems differ in how they exchange manufacturing information and three dimensional data. This causes difficulty in data processing, design processes and manufacturing processes for users of those systems. In order to overcome these interoperability issues, this document has been prepared to facilitate open interoperability between CAD/CAM systems in dentistry.

Dentistry — Interoperability of CAD/CAM systems

1 Scope

This document specifies an extensible markup language (XML) format to facilitate the transfer of dental case data and CAD/CAM data between software systems.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1942, *Dentistry — Vocabulary*

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code*

ISO 3950, *Dentistry — Designation system for teeth and areas of the oral cavity*

ISO 16443, *Dentistry — Vocabulary for dental implants systems and related procedure*

ISO 18739, *Dentistry — Vocabulary of process chain for CAD/CAM systems*

W3C — Extensible Markup Language (XML) 1.0 (Fifth Edition), November 2008

W3C XML Schema Definition Language (XSD) 1.1, April 2012

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942, ISO 16443, ISO 18739, W3C XML 1.0, W3C XML XSD 1.1 and the following 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 https://www.electropedia.org/

3.1 General terms

3.1.1
broker
entity that acts as a middleman or intermediary

Note 1 to entry: Such organizations take multiple orders from multiple sources and consolidate them into a single order for a provider or they take single orders from an originator and split them among multiple providers or they just pass orders through between originators and providers.

3.1.2
interface for dental CAD/CAM systems
IDS
nodes immediately within the enveloping root element that provide traceability and source identification features as well as information on how to reply to a document transaction

Note 1 to entry: The IDS schema organizes the IDS document into structures for specific transactions. They represent a submission, a query, an update of a previous submission, a notification of an event or status change and a series of catalogs. A single IDS document can contain a combination of different transaction nodes or consist of only a single transactional node.

3.1.3
originator
entity (organization or person) that is responsible for creating the current document, order, submission

Note 1 to entry: As such, they are the "originator" of the data being exchanged.

Note 2 to entry: Most often an originator is a dental practice. In some cases, an originator is a dental laboratory that is outsourcing work to another lab.

3.1.4
provider
entity that is responsible for providing the services or products that are being requested in an order

Note 1 to entry: An entity can be a company, a lab.

Note 2 to entry: Most often, a provider is a dental laboratory or manufacturer.

3.2 Terms related to XML content

3.2.1
brokerID
identifiers used by a *broker* (3.1.1) to identify itself, or by an *originator* (3.1.2) and a *provider* (3.1.3) to identify a broker

3.2.2
CADDataCatalog
collection of nodes describing CAD data associated with one or more of either the orders or restorations, or both

Note 1 to entry: It can include either a digital scan or design files, or both.

3.2.3
case
set of one or more orders for dental appliances, products or services, all of which are submitted for a single patient

EXAMPLE A case can contain one order for a crown and another order for a bridge.

3.2.4
catalog
data that are referenced in other elements or areas

Note 1 to entry: The catalogs are subdivided by the data they are grouping, making it easier to manage and reference.

3.2.5
character data
CDATA
certain portion of the document which is general character data, rather than non-character data or character data with a more specific, limited structure

Note 1 to entry: CDATA is used for distinct, but related, purposes in the markup languages SGML and XML.

3.2.6
DataQuery
method to request data from another system or entity

Note 1 to entry: It provides elements to define the data elements to be searched or matched on as well as elements to define the data requested in response.

3.2.7
DeliveryRequest
information for the out-going, finished order, which is sent to the originator (or an originator's agent) as a separate delivery

Note 1 to entry: A delivery is either physical or electronic, or both.

3.2.8
dentist
node that defines the responsible clinician who requested the order

3.2.9
DentistCatalog
collection of *dentist* (3.2.8) nodes that provides attributes and elements to define the dentists being referenced in the IDS schema

Note 1 to entry: The definition can include billing information and license information.

3.2.10
ExtraInfo
child node that can be used to extend the schema with undefined XML

Note 1 to entry: Many of the elements contain child nodes with the suffix "ExtraInfo" (i.e. <DentistExtraInfo>, <OrderExtraInfo>, etc). These are intended to be areas that can be used to extend the defined schema with proprietary or undefined XML. For example, an implementation can use one (or more) of these to embed XML that is only of use to the implementer for an internal workflow. Another use can be two business partners using these to experiment with XML they intend to propose for future versions or to pass proprietary XML they have previously defined between themselves. The IDS schema and XSD ignore the contents of these so they are not validated as part of the IDS schema. It is highly recommended that if these are used, that any XML be enclosed within some proprietary element tag so that if the XML document passes through multiple handlers, there are no conflicts:

```
<DentistExtraInfo>
    <MyCompanyData>
        data specific and of use only to "MyCompany"…
    </MyCompanyData>
</DentistExtraInfo>
```

3.2.11
FileCatalog
collection of <IDSFile> nodes that describe files associated with the <Case>, <Order> or CAD data (scans, design files, etc.)

3.2.12
host service
system that receives the IDS document and processes the contents

3.2.13
IDMapCatalog
collection of <IDMapItem> nodes which provide a means of defining alternate identifiers for key elements within the IDS

3.2.14
notification
means for publishing or returning a defined status, event or message related to an order

Note 1 to entry: Within the notification node is an untyped element that can be defined in accordance with the needs of the parties exchanging information.

3.2.15
order
request for a self-contained dental appliance, service or product that is being requested by an originator

Note 1 to entry: Each order in a case can be created or manufactured by a different provider. Each order contains its own delivery (or reply) instruction nodes.

3.2.16
OrderCatalog
collection of <Order> nodes that provide attributes and elements necessary to define or describe an order

Note 1 to entry: An <Order> will often contain one or more <Restoration> nodes but can omit those nodes when not needed.

3.2.17
parcel
physical package that is mailed

3.2.18
patient
patient for whom a case is being manufactured

Note 1 to entry: Patient infomation is not a mandatory part of the IDS schema.

3.2.19
PatientCatalog
collection of <Patient> nodes that provide attributes and elements to define patients that are referenced in the <Order> or <Case> elements

Note 1 to entry: Because patients are referenced in either multiple <Order> nodes or multiple <Case> nodes, or both, the patient information is grouped into a catalog.

3.2.20
prescription
written directive from the dentist or responsible clinician to the supplier specifying the product that should be manufactured for the patient

3.2.21
ProductCatalog
means for a provider or *broker* (3.1.1) to publish the products that will be available for ordering

Note 1 to entry: The node provides attribute and elements to define a product, include multiple descriptions in different languages and specify ordering options and variations.

3.2.22
productSKU
product stocking unit used by manufacturers to identify their products to their internal systems

3.2.23
providerID
identifiers used by a *broker* (3.1.1) and a *originator* (3.1.2) to identify a *provider* (3.1.3), or by a provider to identify itself

3.2.24
submission
batch or group of one or more <Cases> described in the IDS document

Note 1 to entry: In traditional (non digital) dentistry, a submission is equivalent to receiving a physical package [*parcel* (3.2.17)] containing one or more cases. In the digital IDS realm, the submission represents any combination of one or more either physical or digital, or both, cases that are being "submitted" to a provider for production.

3.2.25
UUID
universally unique identifier
label used for identifying key elements

Note 1 to entry: UUIDs are denoted in the document as string(36) to correspond to the xsd definition for the UUIDTypeDef. 128-bit (16 bytes) number represented as a 36-character string of its hexadecimal presentation (32 characters + separators including leading 0 values) in the format: XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX.

Note 2 to entry: An <IDMap> within the <Catalogs> of the document provides a means of equating the UUID with alternate identifiers that carry external meaning, such as a lab management system ids for a dentist, case or patient.

Note 3 to entry: UUID values can have multiple alternate ids in the <IDMap> but each UUID is defined only once and used on a single key element.

EXAMPLE If the UUID "107face6-fc51-4366-805d-2ee23014d835" is assigned to the dentist "smith", that UUID value can possibly not be used on any other element as a key identifier and can only be used as a reference in other elements needing to associate with that specific dentist.

3.2.26
update
means to send an abbreviated set of data elements to update or modify a previously submitted <Order>

Note 1 to entry: It contains elements that allow the update to match expected values in addition to providing the new values.

4 Data security and storage methods

The Internet has proven to be an effective means of communication, yet its vulnerability to interception raises issues of privacy, authentication and integrity of the communicated message. Therefore, data security is of utmost importance to users of dental information systems.

Because of the personal and private nature of health records, the dental practitioner needs to understand the security issues associated with "data at rest" and "data in transit." This document is not intended to explain security concepts and the risks associated with the maintenance of data in storage and transit, and over an internet connection. The ADA Standards Committee on Dental Informatics has published a series of technical reports that provide dental practitioners with guidelines in addressing issues of security of data in storage and transmission over the internet.

A ZIP file format is recommended for transport of the IDS XML file and related files, however, implementation of a file container is left up to the implementer.

5 Naming

The file name shall end with an .ids extension. The file name can be prepended with any naming convention that the user desires.

6 Tooth numbering system

Throughout the entire document, the tooth number system shall be based on ISO 3950 for tooth numbering.

7 Measurement units

All units are in millimetres unless otherwise specified.

8 Additional restrictions on IDS XML documents

In addition to the schema provided above, a valid IDS document shall also meet the following requirements.

a) The total length of the document shall not exceed 2 MB.

b) The document shall contain a unique identifier for ProviderIDs.

c) The document shall contain a unique identifier for BrokerIDs.

9 XSD Description

The definition of the elements of the XSD schema provided in Annex A shall be used. A sample XML schema of IDS is shown in Annex B. The XSD definition document can be obtained by e-mailing standards@ada.org.

Annex A
(normative)

XML schema for IDS

A.1 General

NOTE Below is a description of the IDS schema. Please note the following conventions used in this annex:

a) An asterisk (*) denotes a required XML node or attribute. Unless marked with an asterisk, all nodes and attributes are considered optional. Note that some optional nodes have required attributes, which means that if the node is present at all, then those attributes marked with * are also present.

b) For nodes and attributes of type "String," the allowed length of the string is unlimited unless the length is specified [e.g. String(100)].

c) The data type "Datetime UTC" implies a DateTime value, in accordance with ISO 8601-1.

d) All data types refer to the XML schema data types: string, integer, boolean, dateTime, etc.

A.2 XML schema for IDS root

Detailed information of XML schema for IDS Root and subdirectories is given in Table A.1 to Table A.3.

Table A.1 — Description of the root directory of IDS

IDS *		
The root node for all IDS documents.		
Attribute	**Data type**	**Description**
IDSVersion *	String(10)	The version identifier of the XML schema of the message.
IDSUUID *	String(36)	A globally unique identifier for the IDS message.

Table A.2 — Description of the directory of IDS/IDSSource

IDS/IDSSource		
An optional node describing the system from which the document originates.		
Attribute	**Data type**	**Description**
HostName	String(100)	The network name of the source host system creating and sending the message.
IPAddress	String(15)	An IPv4 address of the source host system creating and sending the message.
IPAddress6	String(45)	An IPv6 address of the source host system creating and sending the message.
MACAddress	String(15)	A MAC address of the source host system creating and sending the message.
OperatorID	String(100)	A network user identifier for the user account on the source host system creating and sending the message.
NetworkDomain	String(100)	A network name identifier for the domain containing the system sending the message.
ApplicationName	String(100)	A value indicating the application (by name) that was used to generate or originate the IDS message.

Table A.2 *(continued)*

IDS/IDSSource		
An optional node describing the system from which the document originates.		
Attribute	**Data type**	**Description**
SystemName	String(100)	A value indicating the system (by name) that the IDS document originated in.
SystemID	String(100)	A value indicating the originating system by identifier or version.
SubSystemName	String	A value identifying the name of the subsystem originating the message.
SubSystemID	String	A value indicating the originating subsystem by identifier or version.
SystemVersion	String	The software or system version information from the system originating the message.

Table A.3 — Description of the directory of IDS/IDSReplies/ReplyTo

IDS/IDSReplies/**ReplyTo**		
An element specifying address information used for IDS message responses.		
Attribute	**Data type**	**Description**
Address	String(200)	The text of an address. The address itself can be in one of a variety of formats.
AddressType	String(5)	An enumerated value identifying the format of the address provided. Acceptable values are: — URL; — WCF; — MSMQ; — IPV4; — IPV6; — UNC.

A.3 XML schema for IDS <Submission> request

Detailed information of XML schema for IDS <Submission> request and subdirectories is given in Table A.4 to Table A.34.

Table A.4 — Root directory of IDS/Submission

IDS/Submission *		
The root node for the submission XML.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A globally unique identifier for this submission. This UUID can change for each new submission and should be provided by the originator.
DateUTCSubmitted	DateTime UTC	The date and time that the submission was first submitted to the receiver.
DateUTCReceived	DateTime UTC	The date and time that the submission was actually received by the receiver. This value will be populated by the receiver (broker or provider) and should be omitted (or left blank) on new submissions.

Table A.5 — Description of the directory of IDS/Submission/Originator

IDS/Submission/**Originator** *		
Contains information describing the person or business entity that has created the <Submission>.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A unique identifier for this element that can be used by reference elsewhere in the document. It should be defined within the <IDMapCatalog> along with any alternate identifiers from external (non IDS) sources.
Name *	String(255)	Name of the originator.
BusinessType	String(3)	A three-character code signifying the originator's entity type. Valid values are: — LAB : Laboratory; — DOC : Dentist; — SRV : Broker or intermediary service; — OTH : Other.
FacilityID	String(50)	The originator's identifier for the facility where this <Submission> originated.
FacilityUTCOffset	Time	The UTC offset for this originator facility. Note that this is an [hh]:time value, represented at the midnight plus/minus the UTC offset. For example, a facility in the Eastern time zone has a value of 00:00:00-05:00.

Table A.6 — Description of the directory of IDS/Submission/Originator/Address

IDS/Submission/Originator/**Address**		
The postal address of the originator.		
Attribute	**Data type**	**Description**
Street1 *	String(125)	Line 1 of the street address.
Street2	String(125)	Line 2 of the street address.
City *	String(125)	The name of the city or town.
State	String(64)	A two-character state code (in the US) or up to 64 characters for a postal zone, other region (and sub-region) name, such as province, department, canton or county area outside the US.
PostalCode	String(100)	The postal code.
Country *	String(3)	Three-character country code signifying the originator's country. The value shall conform to the ISO 3166-1 Alpha-3 codes.

Table A.7 — Description of the directory of IDS/Submission/Originator/BillingAddress

IDS/Submission/Originator/**BillingAddress**		
The billing address of the originator.		
Attribute	**Data type**	**Description**
Street1 *	String(125)	Line 1 of the street address.
Street2	String(125)	Line 2 of the street address.
City *	String(125)	The name of the city or town.
State	String(64)	A two-character state code (in the US) or up to 64 characters for a postal zone, other region (and sub-region) name, such as province, department, canton or county area outside the US.
PostalCode	String(100)	The postal code.
Country *	String(3)	Three-character country code signifying the originator's country. The value shall conform to the ISO 3166-1 Alpha-3 codes.

Table A.8 — Description of the directory of IDS/Submission/Originator/Contact

IDS/Submission/Originator/**Contact**		
The originator's contact information.		
Attribute	**Data type**	**Description**
Name	String(255)	Contact person's name.
Phone	String(255)	Contact phone number (business).
Fax	String(255)	Contact fax number.
MobilePhone	String(255)	Contact mobile number.
Email	String(255)	Contact email address.

Table A.9 — Description of the directory of IDS/Submission/Originator/Localization

IDS/Submission/Originator/**Localization**		
The originator's localization preferences.		
Attribute	**Data type**	**Description**
Language	String(4)	A four-character code for language as defined in ISO 639-4.
DecimalSymbol	String(1)	The symbol to use for decimals.
DigitGrouping	String(1)	The character to use for digit grouping.
CurrencyCode	String (3)	The three-character ISO 4217 currency code for the preferred currency (e.g. "USD" for US. Dollar).
CurrencySymbol	String(5)	The symbol to use for currency values.

Table A.10 — Description of the directory of IDS/Submission/Originator/OriginatorExtraInfo

IDS/Submission/Originator/**OriginatorExtraInfo**
A node allowing for un-validated XML data to augment the <Originator> data. This node is a CDATA (Character data) marked block and will not be validated by the XML schema. It is suggested that any additional or proprietary data added to this node be embedded within custom identifying XML tags so that additional data can be added by different systems or partners minimizing the risk of breaking the IDS structures.

Table A.11 — Description of the directory of IDS/Submission/Broker

IDS/Submission/**Broker** *		
Information describing the person or business entity that is brokering the <Submission>.		
Attribute	**Data type**	**Description**
UUID	String(36)	Unique identifier for the broker.
BrokerIDOriginator	String(50)	The identifier used internally by the originator to refer to broker.
BrokerIDProvider	String(50)	The identifier used internally by the provider (assuming there is only one provider) for the broker.
BrokerIDBroker	String(50)	The identifier used internally by the broker for itself, if applicable.
Name *	String(255)	Name of the broker.
BusinessType	String(3)	A three-character code signifying the broker's entity type. Valid values are: — LAB : Laboratory; — DOC : Dentist; — SRV : Broker or intermediary service; — OTH : Other.
FacilityID	String(50)	The broker's identifier for the facility where this submission was received.

Table A.11 *(continued)*

IDS/Submission/**Broker** *		
Information describing the person or business entity that is brokering the <Submission>.		
Attribute	**Data type**	**Description**
FacilityUTCOffset	Integer	The UTC offset for this broker facility. Note that this is an [hh]: time value, represented at the midnight plus/minus the UTC offset. For example, a facility in the eastern time zone would have a value of 00:00:00-05:00.
SubSystemName	String(50)	The name of the broker's sub-system that received this submission.
SubSystemID	String(50)	The identifier of the broker's sub-system that received this submission.

Table A.12 — Description of the directory of IDS/Submission/Broker/Address

IDS/Submission/Broker/**Address**		
The postal address of the broker.		
Attribute	**Data type**	**Description**
Street1 *	String(125)	Line 1 of the street address.
Street2	String(125)	Line 2 of the street address.
City *	String(125)	The name of the city or town.
State	String(64)	A two-character state code (in the US) or up to 64 characters for a postal zone, other region (and sub-region) name, such as province, department, canton or county area outside the US.
PostalCode	String(100)	The postal code.
Country *	String(3)	Three-character country code signifying the originator's country. The value shall conform to the ISO 3166-1 Alpha-3 codes.

Table A.13 — Description of the directory of IDS/Submission/Broker/Contact

IDS/Submission/Broker/**Contact**		
The broker's contact information.		
Attribute	**Data type**	**Description**
Name	String(255)	Contact person's name.
Phone	String(255)	Contact phone number (business).
Fax	String(255)	Contact fax number.
MobilePhone	String(255)	Contact mobile number.
Email	String(255)	Contact email address.

Table A.14 — Description of the directory of IDS/Submission/Broker/Localization

IDS/Submission/Broker/**Localization**		
The broker's localization preferences.		
Attribute	**Data type**	**Description**
Language	String(4)	A four-character ISO 639-4 code for the preferred language.
DecimalSymbol	String(1)	The symbol to use for decimals.
DigitGrouping	String(1)	The character to use for digit grouping.
CurrencyCode	String (3)	The three-character ISO 4217 currency code for the preferred currency (e.g. "USD" for US. Dollar).
CurrencySymbol	String(5)	The symbol to use for currency values.

Table A.15 — Description of the directory of IDS/Submission/Broker/BrokerExtraInfo

IDS/Submission/Broker/**BrokerExtraInfo**
A node allowing for un-validated XML data to augment the <Broker> data. This node is a CDATA marked block and will not be validated by the XML schema. It is suggested that any additional or proprietary data added to this node be embedded within custom identifying XML tags so that additional data can be added by different systems or partners minimizing the risk of breaking the IDS structures.

Table A.16 — Description of the directory of IDS/Submission/Providers

IDS/Submission/**Providers**
A node containing a list of <Provider> sub-nodes. Any provider represented anywhere in this <Submission> shall have a node here.

Table A.17 — Description of the directory of IDS/Submission/Providers/Provider

IDS/Submission/Providers/**Provider**		
A node describing a single provider.		
Attribute	**Data type**	**Description**
ProviderIDOriginator *	String(50)	The identifier used by the originator to identify this provider.
ProviderIDProvider	String(50)	The identifier used by the provider to identify itself.
ProviderIDBroker	String(50)	The identifier used by the broker to identify this provider.
Name	String(255)	The name of the provider.
BusinessType	String(3)	A three-character code designating what type of business the provider is (e.g. LAB). Enumeration choices include: — LAB : Laboratory; — DOC : Dentist; — SRV : Broker or intermediary service; — OTH : Other.
FacilityID	String(50)	The provider's identifier for the facility where this submission originated.
FacilityUTCOffset	Integer	The UTC offset (in hours) for this provider facility.
SubSystemName	String(50)	The name of the provider's sub-system that generated this submission.
SubSystemID	String(50)	The identifier of the provider's sub-system that generated this submission.

Table A.18 — Description of the directory of IDS/Submission/Providers/Provider/Address

IDS/Submission/Providers/Provider/**Address**		
The provider's address.		
Attribute	**Data type**	**Description**
Street1 *	String(125)	Line 1 of the street address.
Street2	String(125)	Line 2 of the street address.
City *	String(125)	The name of the city or town.
State	String(64)	A two-character state code (in the US) or up to 64 characters for a postal zone, other region (and sub-region) name, such as province, department, canton or county area outside the US.
PostalCode	String(100)	The postal code.
Country *	String(3)	Three-character country code signifying the originator's country. The value shall conform to the ISO 3166-1 Alpha-3 codes.

Table A.19 — Description of the directory of IDS/Submission/Providers/provider/Contact

IDS/Submission/Providers/Provider/**Contact**		
The provider's contact information.		
Attribute	**Data type**	**Description**
Name	String(255)	Contact person's name.
Phone	String(255)	Contact phone number.
Fax	String(255)	Contact fax number.
MobilePhone	String(255)	Contact mobile number.
Email	String(255)	Contact email address.

Table A.20 — Description of the directory of IDS/Submission/Providers/Provider/Localization

IDS/Submission/Providers/Provider/**Localization**		
The provider's localization preferences.		
Attribute	**Data type**	**Description**
Language	String(4)	A four-character ISO 639-4 code for the preferred language.
DecimalSymbol	String(1)	The symbol to use for decimals.
DigitGrouping	String(1)	The character to use for digit grouping.
CurrencyCode	String(3)	The three-character ISO 4217 currency code for the preferred currency (e.g. "USD" for US. Dollar).
CurrencySymbol	String(5)	The symbol to use for currency values.

Table A.21 — Description of the directory of IDS/Submission/Products

IDS/Submission/**Products**
A node containing a list of all the products referenced in any of the <Order> nodes of the current <Submission>. Any product represented anywhere in this submission shall have a node here. The products listed here are products that are part of an <Order> and should not be confused with products defined in the <ProductCatalog> which are a publication of products available by a provider.

Table A.22 — Description of the directory of IDS/Submission/Products/Product

IDS/Submission/Products/**Product**		
A node containing information about a single product to be used in this <Submission>.		
Attribute	**Data type**	**Description**
ProductIDOriginator *	String(50)	The identifier used internally by the originator for this product.
ProductIDProvider	String(50)	The identifier used internally by the provider for this product, if applicable.
ProductIDBroker	String(50)	The identifier used internally by the broker for this product, if applicable.

Table A.22 *(continued)*

IDS/Submission/Products/**Product**		
A node containing information about a single product to be used in this <Submission>.		
Attribute	**Data type**	**Description**
ProductType *	String(75)	A code designating the type of product. Valid values are in quotes (“”) definitions as follows: — “FULLCROWN” : Monolithic restoration; — “34CROWN” : Crown with 3/4 coverage of the tooth structure; — “ABUTMENT” : Customized implant abutment; — “ABUTMENTWAXUP” : Diagnostic waxup over an abutment; — “ANATOMICALCOPING” : Coping created by an offset from an already designed full crown; — “ANATOMICALPONTIC” : Pontic created by an offset from an already designed full pontic; — “TEMPCROWN” : Temporary crown; — “BRIDGE” : Multi unit restoration; — “DIGITALMODEL” : 3d printed Model; — “ORTHODONTIC” : Appliance for orthodontic; — “DENTALAPPLIANCE” : Appliance except orthodontic; — “REMOVABLE” : Denture, partial denture, customtray; — “CLASP” : Clasp engaging a tooth; — “COPING” : Substructure of a crown; — “CROWN” : Crown composed of more than one component; — “CROWNPONTIC” : Pontic that is a full crown and not a substructure; — “INLAY” : Inlay; — “ONLAY” : Onlay; — “OTHER” : Any other type of restoration not included in the enumerated list; — “PONTIC” : Substructure for a pontic used in a bridge; — “POSTANDCORE” : Post and core; — “TELESCOPECROWN” : Telescopic crown consisting of multiple substructures; — “VENEER” : Veneer; — “WAXUP” : Diagnostic waxup.
ProductDescription	String	Description of the product.

Table A.23 — Subdirectory of IDS/Submission/ParcelIn

IDS/Submission/**ParcelIn**		
A node describing the parcel that was sent for this submission item.		
Attribute (Element)	**Data type**	**Description**
CarrierCode *	String(50)	Code designating the postal carrier used to mail the submission item. Examples values are: — USPS : US Postal Service; — UPS : United Parcel Service; — FEDEX : FedEx; — DHL : DHL Express; — OTH : (Other carrier).
CarrierServiceType	String(150)	The grade of carrier service used to send the parcel (e.g. "Priority Overnight").
CarrierTrackingID	String(255)	The carrier tracking identifier of the submission item.
DateUTCMailed	DateTime UTC	The date and time that the parcel was sent.
DateUTCExpected	DateTime UTC	The date and time that the parcel is expected to arrive at the provider.

Table A.24 — Description of the directory of IDS/Submission/Description

IDS/Submission/**Description**
A free-form text description of the contents of the parcel.

Table A.25 — Description of the directory of IDS/Submission/ParcelIn/Address

IDS/Submission/ParcelIn/**Address**		
A node containing information about the address where the original parcel was mailed. Note that this node is optional. If it is not provided, then the provider's default address will be assumed.		
Attribute	**Data type**	**Description**
Street1 *	String(125)	Line 1 of the street address.
Street2	String(125)	Line 2 of the street address.
City *	String(125)	The name of the city or town.
State	String(64)	A two-character state code (in the US) or up to 64 characters for a postal zone, other region (and sub-region) name, such as province, department, canton or county area outside the US.
PostalCode	String(100)	The postal code.
Country *	String(3)	Three-character country code signifying the originator's country. The value shall conform to the ISO 3166-1 Alpha-3 codes.

Table A.26 — Description of the directory of IDS/Submission/Cases

IDS/Submission/**Cases** *
An enveloping node containing one or more <Case> sub-nodes.

Table A.27 — Description of the directory of IDS/Submission/Cases/Case

IDS/Submission/Cases/**Case** *
A node describing a single case in the submission item.

Table A.27 *(continued)*

IDS/Submission/Cases/**Case** *		
UUID *	String(36)	A unique identifier for this element that can be used by reference elsewhere in the document. It should be defined within the <ID-MapCatalog> along with any alternate identifiers from external (non IDS) sources.
CaseDateUTCCreated	DateTime UTC	The date and time that the case was actually created by the provider. This value will be populated by the provider and should be omitted (or left blank) on new submissions.
CaseDateUTCSubmitted	DateTime UTC	The date and time that the case was first submitted to a provider or broker.
CaseDateUTCReceived	DateTime UTC	The date and time that the case was actually received by the provider (or broker).

Table A.28 — Description of the directory of IDS/Submission/Cases/Case/Patient

IDS/Submission/Cases/Case/**Patient**		
An element referencing a patient for this case.		
Attribute	**Data type**	**Description**
ReferenceID *	String(36)	A reference UUID identifying a patient within the <PatientCatalog>.

Table A.29 — Description of the directory of IDS/Submission/Cases/Case/Orders

IDS/Submission/Cases/Case/**Orders** *
A node containing a list of <Order> sub-nodes for the case.

Table A.30 — Description of the directory of IDS/Submission/Cases/Case/Orders/Order

IDS/Submission/Cases/Case/Orders/**Order** *		
A node describing a single order in the submission item.		
Attribute	**Data type**	**Description**
ReferenceID	String(36)	A reference UUID identifying an <Order> within the <OrderCatalog> .

Table A.31 — Description of the directory of IDS/Submission/Processing

IDS/Submission/**Processing**		
A node containing information about the processing of this submission by the host service. This node is created by the host service itself and need not be passed in with the original submission XML submitted from the originator.		
Attribute	**Data type**	**Description**
Status *	String(1)	A code designating the status of the submission. Valid values are: — S : Success; — F : Failure; — R : Retry; — P : Pending (use this for new submissions).

Table A.32 — Description of the directory of IDS/Submission/Processing/Problems

IDS/Submission/Processing/**Problems**
A node containing a list of <Problem> sub-nodes.

Table A.33 — Description of the directory of IDS/Submission/Processing/Problems/Problem

IDS/Submission/Processing/Problems/**Problem**		
A node containing information about a problem related to this batch submission.		
Attribute	**Data type**	**Description**
ProblemCode	String(25)	A code uniquely identifying this problem.
Level *	String(1)	A code designating the level of problem. Valid values are: — W : Warning; — E : Error.
LineNumber	Integer	The number of the line in the IDS XML document where the problem exists.
LinePosition	Integer	The position in the line in the IDS XML document where the problem exists.
Message *	String(1000)	The message related to the problem.

Table A.34 — Description of the directory of IDS/Submission/ExtraInfoXML

IDS/Submission/**ExtraInfoXML**
A node containing extra information about the submission. This node is a CDATA marked block and will not be validated by the XML schema. It is suggested that any additional or proprietary data added to this node be embedded within custom identifying XML tags so that additional data can be added by different systems or partners minimizing the risk of breaking the IDS structures.

A.4 XML schema for IDS <Catalogs>

A.4.1 IDS/Catalogs

Detailed information of XML schema for IDS <Catalogs> is given in Table A.35.

Table A.35 — Description of the directory of IDS/Catalogs

IDS/Catalogs
An enveloping node containing one or more catalogs of data.

A.4.2 XML schema for IDS <DentistCatalog>

Detailed information of XML schema for IDS <DentistCatalog> and subdirectories is given in Table A.36 to Table A.41.

Table A.36 — Description of the directory of IDS/Catalogs/DentistCatalog

IDS/Catalogs/DentistCatalog
A node containing one or more <Dentist> elements defining the dentists referenced in the IDS document.

Table A.37 — Description of the directory of IDS/Catalogs/DentistCatalog/Dentist

IDS/Catalogs/DentistCatalog/**Dentist** *		
A node containing information about one of the dentists represented in this IDS. Any <Dentist> node occurring elsewhere in the IDS structure will only have a UUID reference to a dentist defined here.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A unique identifier for this element that can be used by reference elsewhere in the document. It should be defined within the <IDMapCatalog> along with any alternate identifiers from external (non IDS) sources.

Table A.37 *(continued)*

IDS/Catalogs/DentistCatalog/**Dentist** *		
A node containing information about one of the dentists represented in this IDS. Any <Dentist> node occurring elsewhere in the IDS structure will only have a UUID reference to a dentist defined here.		
Attribute	**Data type**	**Description**
LastName	String(75)	The dentist's last name.
FirstName	String(75)	The dentist's first name.
MiddleName	String(75)	The dentist's middle Name.
Title	String(20)	The dentist's title (e.g. "D.D.S.").
BusinessPhone	String(255)	The dentist's business phone.
BusinessPhoneExtension	String(10)	An extension number for the business phone
HomePhone	String(255)	The dentist's home phone.

Table A.38 — Description of the directory of IDS/Catalogs/DentistCatalog/Contact

IDS/Catalogs/DentistCatalog/**Contact**		
The dentist's contact information.		
Attribute	**Data type**	**Description**
Name	String(255)	Contact person's name (presumably the dentist's name or that of the office manager).
Phone	String(255)	Contact phone number.
Fax	String(255)	Contact fax number.
MobilePhone	String(255)	Contact mobile number.
Email	String(255)	Contact email address.

Table A.39 — Description of the directory of IDS/Catalogs/DentistCatalog/Licenses

IDS/Catalogs/DentistCatalog/**Licenses**
A node containing a list of <License> sub-nodes for the dentist.

Table A.40 — Description of the directory of IDS/Catalogs/DentistCatalog/Licenses/License

IDS/Catalogs/DentistCatalog/Licenses/**License**		
The dentist's license information.		
Attribute	**Data type**	**Description**
Number *	String(50)	The dentist's license number or identifying information.
IssuedBy	String(64)	The code for the state/province/country where the license was issued.
Type	String(25)	The type of license, i.e. "Dental", "Medical".
IssueDate	Date	The date the license was issued.
ExpiryDate	Date	The date the license will expire.

Table A.41 — Description of the directory of IDS/Catalogs/DentistCatalog/DentistExtraInfo

IDS/Catalogs/DentistCatalog/**DentistExtraInfo**
A node allowing for un-validated XML data to augment the dentist data. This node is a CDATA marked block and will not be validated by the XML schema. It is suggested that any additional or proprietary data added to this node be embedded within custom identifying XML tags so that additional data can be added by different systems or partners minimizing the risk of breaking the IDS structures.

A.4.3 XML schema for IDS <PatientCatalog>

Detailed information of XML schema for IDS <PatientCatalog> and subdirectories is given in Table A.42 to Table A.47 .

Table A.42 — Description of the directory of IDS/Catalogs/PatientCatalog

IDS/Catalogs/PatientCatalog
A node containing a list of <Patient> sub-nodes. Any patient represented anywhere in this submission shall have a node here.

Table A.43 — Description of the directory of IDS/Catalogs/PatientCatalog/Patient

IDS/Catalogs/PatientCatalog/**Patient**		
A node describing the patient.		
Attribute	**Data type**	**Description**
UUID *	String(50)	A unique identifier for this element that can be used by reference elsewhere in the document. It should be defined within the <IDMap-Catalog> along with any alternate identifiers from external (non IDS) sources.
LastName	String(75)	The patient's last name.
FirstName	String(75)	The patient's first name.
MiddleInitial	String(75)	The patient's middle initial.
DateOfBirth	Date	The patient's date-of-birth.
Gender	String(1)	One-character code designating the patient's gender. Based on ISO/IEC 5218, valid values are: — 0 : Not known; — 1 : Male; — 2 : Female; — 9 : Not applicable.

Table A.44 — Description of the directory of IDS/Catalogs/PatientCatalog/Patient/Address

IDS/Catalogs/PatientCatalog/Patient/**Address** *		
The patient's address. Optional node.		
Attribute	**Data type**	**Description**
Street1 *	String(125)	Line 1 of the street address.
Street2	String(125)	Line 2 of the street address.
City *	String(125)	The name of the city or town.
State	String(64)	The code for the state, other region (and sub-region) name, such as province, department, canton or county.
PostalCode	String(100)	The postal code.
Country *	String(3)	Three-character country code signifying the originator's country. The value shall conform to the ISO 3166-1 Alpha-3 codes.

Table A.45 — Description of the directory of IDS/Catalogs/PatientCatalog/Patient/Contact

IDS/Catalogs/PatientCatalog/Patient/**Contact**		
The patient's contact information.		
Attribute	**Data type**	**Description**
Name	String(255)	Contact person's name (presumably, the patient's name or that of the patient's parent or guardian).

Table A.45 *(continued)*

IDS/Catalogs/PatientCatalog/Patient/**Contact**		
The patient's contact information.		
Attribute	**Data type**	**Description**
Phone	String(255)	Contact phone number.
Fax	String(255)	Contact fax number.
MobilePhone	String(255)	Contact mobile number.
Email	String(255)	Contact email address.

Table A.46 — Description of the directory of IDS/Catalogs/PatientCatalog/Patient/Allergies

IDS/Catalogs/PatientCatalog/Patient/**Allergies**
A node containing a list of <Allergy> sub-nodes.

Table A.47 — Description of the directory of IDS/Catalogs/PatientCatalog/Patient/Allergies/Allergy

IDS/Catalogs/PatientCatalog/Patient/Allergies/**Allergy**		
A node containing information about one of the patient's allergies.		
Attribute	**Data type**	**Description**
MaterialName *	String(255)	The name of the material or substance to which the patient is allergic.

A.4.4 XML schema for IDS <OrderCatalog>

Detailed information of XML schema for IDS <OrderCatalog> and subdirectories is given in Table A.48 to Table A.117.

Table A.48 — Description of the directory of IDS/Catalogs/OrderCatalog/Order

IDS/Catalogs/OrderCatalog/**Order** *		
A node describing a single order in the submission item.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A unique identifier for this element that can be used by reference elsewhere in the document. It should be defined within the <IDMapCatalog> along with any alternate identifiers from external (non IDS) sources.
OrderType *	String(75)	Code designating the type of order. Valid values are: — REMOVABLE; — IMPLANT; — FIXED; — SURGICAL-GUIDE; — ORTHODONTIC; — APPLIANCE; — TRYIN; — OTHER.
OrderDateUTCCreated	DateTime UTC	The date and time that the order was actually created by the originator.
OrderDateUTCSubmitted	DateTime UTC	The date and time that the order was first submitted to the broker or provider.

Table A.48 *(continued)*

IDS/Catalogs/OrderCatalog/**Order** *		
A node describing a single order in the submission item.		
Attribute	**Data type**	**Description**
OrderDateUTCReceived	DateTime UTC	The date and time that the order was actually received by the broker or provider. This value will be populated by the broker or provider and should be omitted (or left blank) on new submissions.
ReferenceOrderUUID	String(36)	A IDS order UUID from a previously submitted order to which an order is related or connected.
ReferenceType	ENUMERATION	Valid values are: — REMAKE; — ADJUST; — TRYIN; — OTHER.

Table A.49 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Dentists

IDS/Catalogs/OrderCatalog/Order/**Dentists** *
A node containing a list of <Dentist> sub-nodes, representing the dentists for this order. The <Dentists> node shall contain at least one <Dentist> sub-node.

Table A.50 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Dentists/Dentist

IDS/Catalogs/OrderCatalog/Order/Dentists/**Dentist** *		
A node representing a single dentist for this case.		
Attribute	**Data type**	**Description**
ReferenceID *	String(36)	A reference UUID identifying an <Order> within the <DentistCatalog> .

Table A.51 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/OriginalRx

IDS/Catalogs/OrderCatalog/Order/**OriginalRx**		
A node containing information about the <originalRx> prescription that created this order.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A unique identifier for this element that can be used by reference elsewhere in the document. It should be defined within the <IDMapCatalog> along with any alternate identifiers from external (non IDS) sources.
RegulatedID	String(50)	The prescription number, for states that have a mandated and regulated prescription number.
PrescriptionFileReferenceID	String(36)	The reference identifier to a <IDSFile> attachment containing the prescription in human readable format.
PrescriptionDateUTCOriginated *	DateTime UTC	The date and time that the prescription was originated.
PrescriptionDateUTCDeliveryRequested	DateTime UTC	The date and time that the prescription was requested for delivery.

Table A.52 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Provider

IDS/Catalogs/OrderCatalog/Order/**Provider**		
A node describing the provider who will process this order.		
Attribute	**Data type**	**Description**
ReferenceID *	String(36)	A reference UUID identifying an <Order> within the <DentistCatalog> .
ProviderFacilityID	String(50)	The identifier of the facility operated by the provider that will actually produce the order. If omitted, the provider can determine the facility itself using its own business rules.

Table A.53 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products

IDS/Catalogs/OrderCatalog/Order/**Products**
A node containing a list of products for this order.

Table A.54 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/DentalAppliance

IDS/Catalogs/OrderCatalog/Order/Products/**DentalAppliance**		
A node containing information about dental appliance.		
Attribute	**Data type**	**Description**
Value *	String(255)	A code designating the value of the dental appliance. Valid values are: — BITESPLINT; — NIGHTGUARD; — MOUTHPIECE; — OTHER.
Parameter	String(255)	A string providing additional information correlating to the <Value> of the appliance.

Table A.55 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Orthodontic

IDS/Catalogs/OrderCatalog/Order/Products/**Orthodontic**		
A node containing information about the orthodontic appliance.		
Attribute	**Data type**	**Description**
Value *	String(255)	A code designating the value of the orthodontic appliance. Valid values are: — CLEARALIGNER; — INDIRECTBONDING; — OTHER.
Parameter	String(255)	A string providing additional information correlating to the <Value> of the orthodontic appliance.

Table A.56 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Removable

IDS/Catalogs/OrderCatalog/Order/Products/**Removable**		
A node containing information about the removable appliance.		
Attribute	**Data type**	**Description**
Value *	String(255)	A code designating the value of the removable appliance. Valid values are: — FULLDENTURE; — PARTIALDENTUREFRAME; — CUSTOMTRAY; — OTHER.
Parameter	String(255)	A string providing additional information correlating to the <Value> of the removable appliance.

Table A.57 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product

IDS/Catalogs/OrderCatalog/Order/Products/**Product**		
A node containing information about a single product to be used in this order.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A document unique identifier for this element that can be used by reference elsewhere in the document. It should be defined within the <IDMapCatalog> along with any alternate identifiers from external (non IDS) sources.
Brand	String(255)	A code designating the brand for this product to be used on this order, if applicable. (Note that the definition of a product itself usually implies a brand.)
Shade	String	A code from a recognized dental shade system representing a specific shade for a non tooth specific product (i.e. denture).
ShadeSystem	String	The name of the recognized dental shading system used. Required if a shade system is specified[a].
ProductUUID	String(36)	A unique identifier assigned to the product for purposes of cross-IDS references.
ProductOrderItemUUID	String(36)	An UUID assigned to the line-item instance of a product on an order.
ReferenceProductOrderItemUUID	String(36)	Represents the line item instance of a product from a previously submitted order that this line item relates to. Used when the ReferenceOrderUUID attribute is populated on the <Order> node.
ReferenceType	ENUMERATION	Valid values are: — REMAKE; — SWAP; — ADJUST; — OTHER.
Option	String(255)	A code designating an additional option to be applied to this product. This is a free form field to be used for internal purposes.

[a] Chromascop (Ivoclar Vivadent AG, Schaan, Liechtenstein), Trubyte Biotone (Dentsply Sirona International, Salzburg, Austria), and Vita Classical (Vita Zahnfabrik, Bad Säckingen, Germany) are examples of suitable products available commercially. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of these products.

Table A.58 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Material

IDS/Catalogs/OrderCatalog/Order/Products/Product/**Material**		
A node containing information about the material to use for this product on this order.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A unique identifier for this element that can be used by reference elsewhere in the document. It should be defined within the <IDMapCatalog> along with any alternate identifiers from external (non IDS) sources.
MaterialType	String(75)	A code designating the type of material.
Class *	String(255)	A code designating the class of material. Examples include: — ALLCERAMIC; — PFM; — FULLCAST; — COMPOSITE.
Brand	String(255)	A code designating the brand for this material.
Shade	String(100)	The desired colour for the material.
ShadeSystem	String(100)	The name of the recognized dental shading system used. Requires if a shade system is specified[a].
[a] Chromascop (Ivoclar Vivadent AG, Schaan, Liechtenstein), Trubyte Biotone (Dentsply Sirona International, Salzburg, Austria), and Vita Classical (Vita Zahnfabrik, Bad Säckingen, Germany) are examples of suitable products available commercially. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of these products.		

Table A.59 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/ProductPricing

IDS/Catalogs/OrderCatalog/Order/Products/Product/**ProductPricing**		
A node containing information about the pricing of this product.		
Attribute	**Data type**	**Description**
UnitPrice	Decimal	The price per-unit of this product.

Table A.60 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/ProductPricing/ProductDiscount

IDS/Catalogs/OrderCatalog/Order/Products/Product/ProductPricing/**ProductDiscount**		
A node containing information about the discount pricing of this product. There can be multiple <ProductDiscount> nodes for a single <ProductPricing> node.		
Attribute	**Data type**	**Description**
Code *	String(150)	A code for this discount (e.g. a coupon code).
Value	Decimal	The value for this discount. This can be either an explicit monetary value or a percentage.
IsPercent	Boolean	If true, then the value in the <Value> attribute is assumed to be a percent value. If the <IsPercent> attribute is omitted, then “false” is assumed.

Table A.61 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations

IDS/Catalogs/OrderCatalog/Order/Products/Product/**Restorations**
A node containing a list of <Restoration> sub-nodes that will use this product, if any.

Table A.62 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/**Restoration** *		
A node containing information about a single restoration to be created for this <Restoration>.		
Attribute	**Data type**	**Description**
Index *	Integer	The ordinal position of this Restoration in relation to other restorations on this order. Each restoration in an order shall have a different ordinal position from all other restorations in the order.
Type *	String(75)	A code designating the type of restoration. Example values include: — SINGLE; — BRIDGE; — DENTURE; — OTHER.
Quantity *	Integer	The number of units to be manufactured.
UUID	String(36)	A unique identifier assigned to this restoration for cross-IDS referencing.

Table A.63 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/**Teeth** *
A node containing a list of <Tooth> sub-nodes.

Table A.64 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/**Tooth** *		
A node containing information about a single tooth to be restored for this restoration.		
Attribute	**Data type**	**Description**
Number *	String(3)	Identifies the specific tooth in accordance with ISO 3950.

Table A.65 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product /Restorations/Restoration/Teeth/Tooth/Components

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**Components**
A node containing a list of <Component> sub-nodes.

Table A.66 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations /Restoration/Teeth/Tooth/Components/Component

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/Components/**Component**		
A node containing information about a single tooth's sub-components.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A unique identifier for this element that can be used by reference elsewhere in the document. It should be defined within the <IDMapCatalog> along with any alternate identifiers from external (non IDS) sources.

Table A.66 *(continued)*

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/Components/**Component**		
A node containing information about a single tooth's sub-components.		
Attribute	**Data type**	**Description**
ComponentType	String(50)	A code designating the type of product. Valid values are in quotes (""). The definitions are: — "FULLCROWN" : Solid, single piece restoration; — "34CROWN" : Crown with 3/4 coverage of the tooth structure; — "ABUTMENT" : Customized implant abutment; — "ABUTMENTWAXUP" : Diagnostic waxup over an abutment; — "ANATOMICALCOPING" : Coping created by an offset from an already designed full crown; — "ANATOMICALPONTIC" : Pontic created by an offset from an already designed full pontic; — "ARTIFICIALTOOTH" : Temporary crown; — "BRIDGE" : Multi unit restoration; — "CLASP" : Clasp engaging a tooth; — "COPING" : Substructure of a crown; — "CROWN" : Crown composed of more than one component; — "CROWNPONTIC" : Pontic that is a full crown and a not a substructure; — "INLAY" : Inlay; — "ONLAY" : Onlay; — "OTHER" : Any other type of restoration not included in the enumerated list; — "PONTIC" : Substructure for a pontic used in a bridge; — "POSTANDCORE" : Post and Core; — "TELESCOPECROWN" : Telescopic crown consisting of multiple substructures; — "VENEER" : Veneer; — "WAXUP" : Diagnostic waxup.
UnitPrice	Decimal	The component's price-per-unit.
Quantity	Integer	The number of units requested.

Table A.67 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/ConnectedTeeth

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**ConnectedTeeth**
A node containing a list of <ConnectedTooth> sub-nodes.

Table A.68 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product /Restorations/Restoration/Teeth/Tooth/ConnectedTeeth/ConnectedTooth

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/ConnectedTeeth/**ConnectedTooth**		
A node containing information about a single connected tooth for this restoration.		
Attribute	**Data type**	**Description**
Number *	String(3)	Identifies the specific tooth using the numbering method indicated on the <Restoration> node above.

Table A.69 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product /Restorations/Restoration/Teeth/Tooth/ToothAttachments

IDS/Catalogs/OrderCatalog/Order/Product/Restorations/Restoration/Teeth/Tooth/**ToothAttachments**
A node containing a list of <ToothAttachment> sub-nodes.

Table A.70 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product /Restorations/Restoration/Teeth/Tooth/ToothAttachments/ToothAttachment

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/ToothAttachments/**ToothAttachment**		
A node containing information about a single tooth attachment for this tooth.		
Attribute	**Data type**	**Description**
ToothAttachmentType *	String(50)	A code designating the type of tooth attachment. Valid values are: — INTRACORONAL; — EXTRACORONAL; — BARTYPE; — OTHER.

Table A.71 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product /Restorations/Restoration/Teeth/Tooth/ToothContours

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**ToothContours**
A node containing a list of <ToothContour> sub-nodes.

Table A.72 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/ToothContours/ToothContour

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/ToothContours/**ToothContour**		
A node containing information about a single tooth contour for this tooth.		
Attribute	**Data type**	**Description**
Value *	String(255)	A code designating the value of the tooth contour. Valid values are: —SQUARE; — TAPERED; — OVAL; — OPENEMBRASURE; — CLOSEDEMBRASURE; — EMERGENCEANGLE; — GINGIVALTISSUE; — GUIDEPLANE; — REPLICATEDTOOTH; — MIRRORTOOTH; — OTHER.
Parameter	String(255)	A string providing additional information correlating to the value of the tooth contour.

Table A.73 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/PonticContours

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**PonticContours**
A node containing a list of <PonticContour> sub-nodes.

Table A.74 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/PonticContours/PonticContour

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/PonticContours/**PonticContour**		
A node containing information about a single pontic contour for this tooth.		
Attribute	**Data type**	**Description**
Value *	String(255)	A code designating the value of the pontic contour. Valid values are: — OVATE; — SANITARY; — POINTRIDGE; — RIDGELAP; — SOCKET; — OTHER.
Parameter	String(255)	A string providing additional information correlating to the value of the pontic contour.

Table A.75 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/Shading

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**Shading** *		
A node containing information about the shading for this tooth.		
Attribute	**Data type**	**Description**
ShadeSystem *	String(200)	The name of the recognized dental shading system used. Required if a shade system is specified[a].
Cervical	String(25)	A code designating the shading of the cervical.
Body	String(25)	A code designating the shading of the body.
Incisal	String(25)	A code designating the shading of the incisal.
Hue	String(25)	A code indicating the shade colour.
Chroma	String(25)	A code indicating the strength or dominance of the hue.
Stump	String(25)	A code indicating the shade of the stump.

[a] Chromascop (Ivoclar Vivadent AG, Schaan, Liechtenstein), Trubyte Biotone (Dentsply Sirona International, Salzburg, Austria), and Vita Classical (Vita Zahnfabrik, Bad Säckingen, Germany) are examples of suitable products available commercially. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of these products.

Table A.76 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/Shading/Translucency

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/Shading/**Translucency**		
A node containing information about the translucency for the shading for this tooth.		
Attribute	**Data type**	**Description**
Incisal *	String(200)	The translucency value for the incisal.
Intensity	String(25)	The intensity value.

Table A.77 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/Stump

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**Stump**		
A node containing information about the stump shade for this tooth.		
Attribute	**Data type**	**Description**
Value *	String(255)	The value of the stump.
Parameter	String(255)	An extra piece of information about the stump (if applicable).

Table A.78 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/Staining

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**Staining**		
A node containing information about the staining for this tooth.		
Attribute	**Data type**	**Description**
OcclusalValue	String(50)	The value of the occlusal. Values are: — LIGHT; — DARK.
OcclusalColor	String(50)	The colour of the occlusal. Possible values are based on the vendor in the <Shading> node.

Table A.78 *(continued)*

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**Staining**		
A node containing information about the staining for this tooth.		
Attribute	**Data type**	**Description**
CervicalColor	String(50)	The colour of the cervical. Possible values are based on the vendor in the <Shading> node.
Glaze	String(75)	A code designating the glaze. Valid values are: — HIGH; — NATURAL; — BISQUE; — MECHANICALPOLISH; — OTHER.
Texture	String(75)	A code designating the texture. Valid values are: — SMOOTH; — ROUGH; — HORIZONTALGROOVES; — VERTICALGROOVES; — PERIKYMATA; — MAMMELONS; — OTHER.

Table A.79 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/AncillaryProcedures

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**AncillaryProcedures**		
A node containing information about the ancillary procedures for this tooth.		
Attribute	**Data type**	**Description**
Value *	String(255)	A code designating the ancillary procedures. Valid values are: — TRANSFERCOPING; — SOFTTISSUEMODEL; — OTHER.
Parameter	String(255)	Additional parameter on the ancillary procedures.

Table A.80 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/AdjacentTeethNodes

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**AdjacentTeethNodes**		
A node containing a list of adjacent teeth nodes for this tooth. Refers to neighbouring teeth in regards to the restoration, i.e. Restoration tooth number is 3, therefore adjacent teeth nodes are 2,4.		
Attribute	**Data type**	**Description**
Value *	String(255)	A list of UUIDs designating the adjacent teeth nodes.
Parameter	String(255)	A extra parameter of the adjacent teeth nodes.

Table A.81 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product /Restorations/Restoration/Teeth/Tooth/OpposingDentition

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**OpposingDentition**		
A node containing information about the opposing dentition for this tooth. Refers to the tooth number directly on the other side of the bite, i.e. restoration teeth is 3, therefore the opposition dentition is 30.		
Attribute	**Data type**	**Description**
Value *	String(255)	A code designating the opposing dentition.
Parameter	String(255)	A extra parameter of the opposing dentition.

Table A.82 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/Implant

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/**Implant**		
A node that describes an implant on this tooth.		
Attribute	**Data type**	**Description**
Manufacturer *	String(100)	A string value identifying the implant manufacturer.
Supplier *	String(100)	A string value identifying the entity (e.g. business, lab) supplying the implant.
System *	String(255)	The implant system to be used. It should be specific to the manufacturer and is similar to a product line.
ImplantableDiameter *	Decimal	A number indicating the diameter of the implant.
ImplantableLength	Decimal	A number indicating the length of the implant.
Material *	String(255)	A string value identifying the material type to be used.
ScanBodyName *	String(255)	A string value of the name of the scan body used.
ScanBodyPart *	String(255)	A product or part identifier.
RetentionMethod *	ENUMERATION	An enumerated value identifying how the crown will be retained on the implant. Valid values are: — SCREWRETAINED; — CEMENTRETAINED; — HYBRID.
BodyMaterialType *	String(255)	A string value identifying the body material type of the implant.
InterfaceMaterialType *	String(255)	A string value identifying the interface material type of the implant.
ImplantBarID *	String(36)	An identifier assigned to an implant bar defined in a subsequent <ImplantBar> node in a <DesignFiles>.
AbutmentType	ENUMERATION	An enumerated value identifying type of abutment. Valid values are: — STOCKABUTMENT; — ONCUSTOMIZEDABUTMENT; — SUBSTRUCTURE.

Table A.83 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Features

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/**Features**
A node containing a list of <Features> sub-nodes for this restoration.

Table A.84 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Features/Feature

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Features/**Feature**		
A node containing information about a single feature on this restoration.		
Attribute	**Data type**	**Description**
Value *	String(255)	The value (description) of the feature.
Parameter	String(255)	An extra parameter of the feature.

Table A.85 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Features/Feature/Description

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Features/Feature/**Description**
A free-form text node containing a description of the feature. This node is a CDATA marked block and will not be validated by the XML schema.

Table A.86 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/ReinforcementMethod

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/**ReinforcementMethod**		
A node containing information about the reinforcement method for this restoration. Refers to optional, additional material that can be added to strengthen the restoration. Example Wire or mesh metal.		
Attribute	**Data type**	**Description**
Value *	String(255)	The value (description) of the reinforcement method.
Parameter	String(255)	A extra parameter of the reinforcement method.

Table A.87 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/ReinforcementMethod/Description

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/ReinforcementMethod/**Description**
A free-form text node containing a description of the reinforcement method. This node is a CDATA marked block and will not be validated by the XML schema.

Table A.88 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/ProcessMethod

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/**ProcessMethod**		
A node containing information about the process method for this restoration.		
Attribute	**Data type**	**Description**
Value *	String(255)	The value (description) of the process method.
Parameter	String(255)	An extra parameter of the process method.

Table A.89 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/ProcessMethod/Description

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/ProcessMethod/**Description**
A free-form text node containing a description of the process method. This node is a CDATA marked block and will not be validated by the XML schema.

Table A.90 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/SpecialInstructions

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/**SpecialInstructions**
A node containing special instructions (free-form text) about the restoration. This node is a CDATA marked block and will not be validated by the XML schema.

Table A.91 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/ExtraRestorationInfoXML

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/**ExtraRestorationInfoXML**
A node containing extra information about the restoration. This node is a CDATA marked block and will not be validated by the XML schema. It is suggested that any additional or proprietary data added to this node be embedded within custom identifying XML tags so that additional data can be added by different systems or partners minimizing the risk of breaking the IDS structures.

Table A.92 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/FileAttachments

IDS/Catalogs/OrderCatalog/Order/Products/Product/**FileAttachments**
A node containing a list of file attachments for this product.

Table A.93 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/FileAttachments/FileAttachment

IDS/Catalogs/OrderCatalog/Order/Products/Product/FileAttachments/**FileAttachment**		
A node containing information about a single file attachment for this order.		
Attribute	**Data type**	**Description**
ReferenceID *	String(36)	A UUID reference identifier that matches files defined in the file catalog elements.

Table A.94 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Products/Product/ProductExtraInfoXML

IDS/Catalogs/OrderCatalog/Order/Products/Product/**ProductExtraInfoXML**
A node containing extra information about the product. This node is a CDATA marked block and will not be validated by the XML schema. It is suggested that any additional or proprietary data added to this node be embedded within custom identifying XML tags so that additional data can be added by different systems or partners minimizing the risk of breaking the IDS structures.

Table A.95 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/OrderPricing

IDS/Catalogs/OrderCatalog/Order/**OrderPricing**
A node containing information about the pricing of this order.

Table A.96 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/OrderPricing/OrderDiscount

IDS/Catalogs/OrderCatalog/Order/OrderPricing/**OrderDiscount**		
A node containing information about the discount pricing of this order. There can be multiple <OrderDiscount> nodes for the <OrderPricing> node.		
Attribute	**Data type**	**Description**
Code *	String(150)	A code for this discount (e.g. a coupon code).

Table A.96 *(continued)*

IDS/Catalogs/OrderCatalog/Order/OrderPricing/**OrderDiscount**		
A node containing information about the discount pricing of this order. There can be multiple <OrderDiscount> nodes for the <OrderPricing> node.		
Attribute	**Data type**	**Description**
Value	Decimal	The value for this discount. This can be either an explicit monetary value or a percentage.
IsPercent	Boolean	If true, then the value in the value attribute is assumed to be a percent value. If the IsPercent attribute is omitted, then "false" is assumed.

Table A.97 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/FileAttachments

IDS/Catalogs/OrderCatalog/Order/**FileAttachments**
A node containing a list of file attachments for this order.

Table A.98 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/FileAttachments/FileAttachment

IDS/Catalogs/OrderCatalog/Order/FileAttachments/**FileAttachment**		
A node containing information about a single file attachment for this order.		
Attribute	**Data type**	**Description**
ReferenceID *	String(36)	A UUID reference identifier that matches files defined in the file catalog elements.

Table A.99 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/ParcelEnclosures

IDS/Catalogs/OrderCatalog/Order/**ParcelEnclosures**
A node containing a list of enclosures for this order.

Table A.100 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/ParcelEnclosures/ParcelEnclosure

IDS/Catalogs/OrderCatalog/Order/ParcelEnclosures/**ParcelEnclosure**		
A node containing information about a single enclosure for this order. An enclosure can be either any item provided by the originator at the time of order or any item being returned to the originator at the completion of the order, or both.		
Attribute	**Data type**	**Description**
Type *	String(255)	The type of enclosure. Examples include: — IMPRESSION; — PHOTO; — MODELS; — BITE REGISTRATION; — SHADE GUIDE; — OLD CROWN.

Table A.101 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/ParcelEnclosures/ParcelEnclosure/Comments

IDS/Catalogs/OrderCatalog/Order/ParcelEnclosures/ParcelEnclosure/**Comments**
A node containing comments (free-form text) about the enclosure. This node is a CDATA marked block and will not be validated by the XML schema.

Table A.102 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/SpecialInstructions

IDS/Catalogs/OrderCatalog/Order/**SpecialInstructions**
A node containing special instructions (free-form text) about the order. This node is a CDATA marked block and will not be validated by the XML schema.

Table A.103 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/OrderComments

IDS/Catalogs/OrderCatalog/Order/**OrderComments**
A node that contains one or more order comment elements.

Table A.104 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/OrderComments/OrderComment

IDS/Catalogs/OrderCatalog/Order/OrderComments/**OrderComment**		
A node containing free form comments on or about the order. This node is a CDATA marked block and will not be validated by the XML schema.		
Attribute	**Data type**	**Description**
UUID	String(36)	A unique identifier for the specific comment.
DateUTCAdded *	Date UTC	The UTC date that the comment was added to the order.
Source	String(36)	A value indicating where the comment came from. Valid values are: — Originator; — Provider; — Broker.
Private	Boolean	A true value indicates that this comment is to be treated as private or sensitive and should not be published or printed where the customer or patient can see it.
Author	String	A text value identifying the author or creator of the comment.
Comment	String	The content of the comment for the order.

Table A.105 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/DeliveryRequests

IDS/Catalogs/OrderCatalog/Order/**DeliveryRequests**
A node containing a list of <DeliveryRequest> sub-nodes.

Table A.106 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/DeliveryRequests/DeliveryRequest

IDS/Catalogs/OrderCatalog/Order/DeliveryRequests/**DeliveryRequest**		
A node containing information about a single delivery request for the order.		
Attribute	**Data type**	**Description**
DateUTCRequestedDelivery *	Date UTC	The UTC date for the requested delivery.

Table A.106 *(continued)*

IDS/Catalogs/OrderCatalog/Order/DeliveryRequests/**DeliveryRequest**		
A node containing information about a single delivery request for the order.		
Attribute	**Data type**	**Description**
IsRush	Boolean	If true, then this order should be rushed for faster delivery.

Table A.107 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/DeliveryRequest/ParcelOut

IDS/Catalogs/OrderCatalog/Order/DeliveryRequest/**ParcelOut**		
A node containing information about a parcel to send out for this delivery request, if applicable.		
Attribute	**Data type**	**Description**
CarrierCode	String(50)	Code designating the postal carrier used to mail the submission item.
CarrierServiceType	String(150)	The grade of carrier service used to send the parcel (e.g. “priority overnight”).
CarrierTrackingID	String(255)	The carrier tracking identifier of the submission item.
DateUTCMailed	DateTime UTC	The date and time that the parcel was sent.
DateUTCExpected	DateTime UTC	The date and time that the parcel is expected to arrive at the provider.
CarrierAccountID	String(50)	The originator’s account identifier with the specified carrier. The provider will charge the delivery to this account.

Table A.108 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/DeliveryRequest/ParcelOut/Address

IDS/Catalogs/OrderCatalog/Order/DeliveryRequest/ParcelOut/**Address**		
A node containing information about the address to use for the delivery of this parcel. Note that this node is optional. If it is not provided, then the originator’s address will be used.		
Attribute	**Data type**	**Description**
Street1 *	String(125)	Line 1 of the street address.
Street2	String(125)	Line 2 of the street address.
City *	String(125)	The name of the city or town.
State	String(64)	A two-character state code (in the US) or up to 64 characters for a postal zone, other region (and sub-region) name, such as province, department, canton or county area outside the US.
PostalCode	String(100)	The postal code.
Country *	String(3)	Three-character country code signifying the originator’s country. The value shall conform to the ISO 3166-1 Alpha-3 codes.

Table A.109 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/DeliveryRequest/FileOut

IDS/Catalogs/OrderCatalog/Order/DeliveryRequest/**FileOut**		
A node containing information about an electronic file to send out for this delivery request, if applicable.		
Attribute	**Data type**	**Description**
ReferenceID *	String(36)	A UUID reference identifier that matches files defined in the file catalog elements.

Table A.110 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/DeliveryRequest/Contact

IDS/Catalogs/OrderCatalog/Order/DeliveryRequest/**Contact**		
A node containing information about the contact person to use for the delivery of this order. This person can be contacted if the host service has any questions or problems regarding the delivery, including electronic deliveries.		
Attribute	**Data type**	**Description**
Name	String(255)	Contact person's name.
Phone	String(255)	Contact phone number.
Fax	String(255)	Contact fax number.
MobilePhone	String(255)	Contact mobile number.
Email	String(255)	Contact email address.

Table A.111 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Status

IDS/Catalogs/OrderCatalog/Order/**Status**		
A node containing information about the status of this order. This node will be populated on XML results returned by the host service.		
Attribute	**Data type**	**Description**
StatusCode *	String(100)	A code designating the status of the order at a particular production stage (i.e. in-process, completed, waiting, failed, error, success, etc).
ProductionStage	String(100)	A code designating what stage the order is currently in with regards to the production of the order.
DateUTCShipped	Datetime UTC	The UTC date and time when the order was shipped for delivery.
DeliveryConfirmed	Boolean	If true, then the order's delivery has already been confirmed.
DateUTCEstimatedShip	Datetime UTC	The UTC date and time when the order is expected to ship for delivery.
Comments	String	Comments about the status of the order.

Table A.112 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/OrderExtraInfoXML

IDS/Catalogs/OrderCatalog/Order/**OrderExtraInfoXML**
A node containing extra information about the order. This node is a CDATA marked block and will not be validated by the XML schema. It is suggested that any additional or proprietary data added to this node be embedded within custom identifying XML tags so that additional data can be added by different systems or partners minimizing the risk of breaking the IDS structures.

Table A.113 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/TeethInfo

IDS/Catalogs/OrderCatalog/Order/**TeethInfo**
An enveloping node to contain elements describing either additional teeth or surrounding teeth, or both, that can be relevant to the restoration(s) and order.

Table A.114 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/TeethInfo/Extracted

IDS/Catalogs/OrderCatalog/Order/TeethInfo/**Extracted**		
A node containing information about extracted teeth.		
Attribute	**Data type**	**Description**
Number	Integer	A tooth number identified by the tooth numbering method in accordance with ISO 3950.

Table A.115 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/TeethInfo/Edentulous

IDS/Catalogs/OrderCatalog/Order/TeethInfo/**Edentulous**		
A node containing information about edentulous (missing) teeth.		
Attribute	**Data type**	**Description**
Number	Integer	A tooth number identified by the tooth numbering method in accordance with ISO 3950.

Table A.116 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Designs

IDS/Catalogs/OrderCatalog/Order/**Designs**
A node containing the designs for the order.

Table A.117 — Description of the directory of IDS/Catalogs/OrderCatalog/Order/Designs/Design

IDS/Catalogs/OrderCatalog/Order/Designs/**Design**		
A node containing information about the address to use for the delivery of this parcel. Note that this node is optional. If it is not provided, then the originator's address will be used.		
Attribute	**Data type**	**Description**
ReferenceID *	String(36)	A node containing a reference to a design included in the <CADDataCatalog>.

A.4.5 XML schema for IDS <CADDataCatalog>

Detailed information of XML schema for IDS <CADDataCatalog> and subdirectories is given in Table A.118 to Table A.172.

Table A.118 — Description of the directory of IDS/Catalogs/CADDataCatalog

IDS/Catalogs/CADDataCatalog
A container node containing information about CAD scans and CAD designs.

Table A.119 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans

IDS/Catalogs/CADDataCatalog/**Scans**
A container node containing information about all of the CAD scans contained in the document.

Table A.120 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan

IDS/Catalogs/CADDataCatalog/Scans/**Scan**		
A node containing information about each individual scan.		
Attribute	**Data type**	**Description**
UUID *	String(36)	Universal unique identifier.
Name	String(100)	Scan name.

Table A.120 *(continued)*

IDS/Catalogs/CADDataCatalog/Scans/**Scan**		
A node containing information about each individual scan.		
Attribute	**Data type**	**Description**
ScanType	String(100)	Scan type includes: — IMPRESSION; — DIE; — MODEL; — INTRAORAL; — BUCCALBITE; — INTERPROXIMAL; — IMPLANTLOCATOR; — BITE; — OTHER.
ScanDateUTC	DateTime	UTC time when the scan was acquired.
Accuracy	String(100)	Valid values are: — PREVIEW; — STANDARD; — HIGHDEFINITION; — OTHER.
Range	String(100)	Range of teeth specified as starting tooth and ending tooth separated with a dash ("-").

Table A.121 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/ObjectMaterial

IDS/Catalogs/CADDataCatalog/Scans/Scan/**ObjectMaterial**		
A node containing information about the material from which scanned object was made. It can be used to distinguish natural dentition, dental stone, plaster, PVS (Polyvinyl siloxane).		
Attribute	**Data type**	**Description**
Name	String(100)	Name of the material.

Table A.122 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/Scanner

IDS/Catalogs/CADDataCatalog/Scans/Scan/**Scanner**		
A node containing information about particular scanner (physical hardware) that was used to acquire the scan.		
Attribute	**Data type**	**Description**
Brand	String(100)	Scanner brand.
Model	String(100)	Scanner model.
Version	String(100)	Scanner version.
SerialNumber	String(100)	Scanner serial number.

Table A.123 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/ScanSystem

IDS/Catalogs/CADDataCatalog/Scans/Scan/**ScanSystem**		
A node containing information about the scanning software which was used to acquire the scan.		
Attribute	**Data type**	**Description**
Brand	String	Scanner brand.
Model	String	Scanner model.
Version	String	Scanner version.

Table A.124 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/OcclusalDirection

IDS/Catalogs/CADDataCatalog/Scans/Scan/**OcclusalDirection**		
A node containing information about occlusal direction for the scan. Not applicable to buccal bite scans. Defined as being normal (perpendicular) to the occlusal surface of the tooth and facing away from the scan.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.

Table A.125 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/Teeth

IDS/Catalogs/CADDataCatalog/Scans/Scan/**Teeth**
A node containing information about all teeth covered by the scan.

Table A.126 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/Teeth/Tooth

IDS/Catalogs/CADDataCatalog/Scans/Scan/Teeth/**Tooth**		
A node containing information about a particular tooth.		
Attribute	**Data type**	**Description**
Number	Integer	Tooth number in accordance with ISO 3950.

Table A.127 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/Teeth/Tooth/FacialDirection

IDS/Catalogs/CADDataCatalog/Scans/Scan/Teeth/Tooth/**FacialDirection**		
A node containing information about facial/buccal direction for the tooth.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.

Table A.128 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/Teeth/Tooth/MarginLine

IDS/Catalogs/CADDataCatalog/Scans/Scan/Teeth/Tooth/**MarginLine**
A node containing information about a particular tooth margin line. Represented as an array of ordered points.

Table A.129 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/Teeth/Tooth/MarginLine/MarginPoint

IDS/Catalogs/CADDataCatalog/Scans/Scan/Teeth/Tooth/MarginLine/**MarginPoint**		
A node containing information about the margin point of a margin line.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.
Index	Integer	Point index within the array.

Table A.130 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/TransformationMatrix

IDS/Catalogs/CADDataCatalog/Scans/Scan/**TransformationMatrix**		
A node containing information about the transformation matrix, which needs to be applied to the scan to bring it to the same coordinate system as the rest of the scans, for example, for the purpose of bite registration. The matrix has 3×4 format to include translation component.		
Attribute	**Data type**	**Description**
M00	Double	Matrix component.
M01	Double	Matrix component.
M02	Double	Matrix component.
M10	Double	Matrix component.
M11	Double	Matrix component.
M12	Double	Matrix component.
M20	Double	Matrix component.
M21	Double	Matrix component.
M22	Double	Matrix component.
M30	Double	Matrix component.
M31	Double	Matrix component.
M32	Double	Matrix component.

Table A.131 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/Landmarks

IDS/Catalogs/CADDataCatalog/Scans/Scan/**Landmarks**
A node containing information about all the landmarks identified on the scan. For example, it can be desirable to communicate information where preparations are located.

Table A.132 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/Landmarks/Landmark

IDS/Catalogs/CADDataCatalog/Scans/Scan/Landmarks/**Landmark**		
A node containing information about a particular landmark point.		
Attribute	**Data type**	**Description**
Name	String	Name of the landmark.
Description	String	Description of the landmark.

Table A.133 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/Landmarks/Landmark/MarkPoint

IDS/Catalogs/CADDataCatalog/Scans/Scan/Landmarks/Landmark/**MarkPoint**		
A node containing positional information about particular landmark point.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.

Table A.134 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/ScanFiles

IDS/Catalogs/CADDataCatalog/Scans/Scan/**ScanFiles**
A node containing information about all the scan files that collectively represent the scan. IDS supports many individual files which collectively represent the scan.

Table A.135 — Description of the directory of IDS/Catalogs/CADDataCatalog/Scans/Scan/ScanFiles/ScanFile

IDS/Catalogs/CADDataCatalog/Scans/Scan/ScanFiles/**ScanFile**		
A node containing the reference to the scan file.		
Attribute	**Data type**	**Description**
ReferenceID *	String(36)	Identifier of the file defined in <FileCatalog>.

Table A.136 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs

IDS/Catalogs/CADDataCatalog/**Designs**
A node containing information about all the designs included in the document.

Table A.137 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design

IDS/Catalogs/CADDataCatalog/Designs/**Design**		
A node containing information about a particular design.		
Attribute	**Data type**	**Description**
UUID	String(36)	Unique identifier of the design.
Name	String	Name of the design.
DesignDateUTC	DateTime	UTC time when the design was completed.
ProductUUID	String(36)	Identifier of the product design refers to the attribute links the design to such properties as material, shade, etc.
RestorationUUID	String(36)	Identifier of the restoration which was designed. Can be used to look up if it's a crown, inlay, abutment, etc.

Table A.138 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties

IDS/Catalogs/CADDataCatalog/Designs/Design/**DesignProperties**		
A node containing information about design properties.		
Attribute	**Data type**	**Description**
MinimumThickness	Double	Minimum thickness for which the design has been optimized.

Table A.139 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ToolRadiusCompensation

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/**ToolRadiusCompensation**		
A node containing information about whether the tool radius compensation has been applied.		
Attribute	**Data type**	**Description**
Done	Boolean	Specifies if tool radius compensation has been applied.
Radius	Double	Radius of the tool for which the design has been compensated.

Table A.140 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/UndercutsRemoved

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/**UndercutsRemoved**		
A node containing information about whether undercuts have been removed.		
Attribute	**Data type**	**Description**
Done	Boolean	Specifies if the design is undercut free. For example, it's required for 3 axis milling technology.
DraftAngle	Double	The angle is measured from the insertion direction in degrees.

Table A.141 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/SprueLocation

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/**SprueLocation**
A node containing information about where the sprue(s) should be placed.

Table A.142 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/SprueLocation/MarkPoint

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/SprueLocation/**MarkPoint**		
A node containing positional information about a particular sprue point.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.
Index	Integer	Point index within the array.

Table A.143 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantBarAttachments

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/**ImplantBarAttachments**
A node containing one or more nodes defining an implant.

Table A.144 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantBars/ImplantBar

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantBars/**ImplantBar**		
A node containing one or more nodes defining an implant. This node can contain one or more <ImplantBar> nodes.		
Attribute	**Data type**	**Description**
UUID	String(36)	A unique identifier assigned to the implant bar being defined.

Table A.145 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantBars/ImplantBar/ImplantBarAttachment

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantsBars/ImplantBar/**ImplantBarAttachment**		
A node containing one or more nodes defining an implant bar attachment.		
Attribute	**Data type**	**Description**
Type	String	A string denoting the type of attachment.

Table A.146 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantBarsAttachment/AttachmentPositionValues

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantBarAttachment/**AttachmentPositionValues**		
A node containing information about the implant attachment position.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.

Table A.147 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantBarsAttachment/AttachmentDirectionValues

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantBarAttachment/**AttachmentDirectionValues**		
A node containing information about the implant attachment direction.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.

Table A.148 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/**ImplantPosition**		
A node containing information about an implant location.		
Attribute	**Data type**	**Description**
Tooth	Integer	Tooth number of the implant location.

Table A.149 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/ImplantPositionValues

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/**ImplantPositionValues**		
A node containing information about an implant position.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.

Table A.150 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/ImplantDirectionValues

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/**ImplantDirectionValues**		
A node containing information about the implant direction.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.

Table A.151 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/ImplantLibraryFile

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/**ImplantLibraryFile**		
A node containing information about the library file.		
Attribute	**Data type**	**Description**
ReferenceID	String(36)	Identifier of the file defined in <FileCatalog>.

Table A.152 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/MarginLine

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/**MarginLine**
A node containing information about a particular tooth margin line. Represented as an array of ordered points.

Table A.153 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/MarginLine/MarginPoint

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/MarginLine/**MarginPoint**		
A node containing information about the margin for the implant.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.
Index	Integer	Point index within the array.

Table A.154 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/DesignFile/ImplantTransformationMatrix

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/DesignFile/**ImplantTransformationMatrix**		
A node containing information about the transformation matrix, which needs to be applied to the implant to bring it to the same coordinate system as the rest of the scans, for example, for the purpose of bite registration. The matrix has 3×4 format to include the translation component.		
Attribute	**Data type**	**Description**
M00	Double	Matrix component.
M01	Double	Matrix component.
M02	Double	Matrix component.
M10	Double	Matrix component.
M11	Double	Matrix component.

Table A.154 *(continued)*

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ImplantPosition/DesignFile /**ImplantTransformationMatrix**		
A node containing information about the transformation matrix, which needs to be applied to the implant to bring it to the same coordinate system as the rest of the scans, for example, for the purpose of bite registration. The matrix has 3×4 format to include the translation component.		
Attribute	**Data type**	**Description**
M12	Double	Matrix component.
M20	Double	Matrix component.
M21	Double	Matrix component.
M22	Double	Matrix component.
M30	Double	Matrix component.
M31	Double	Matrix component.
M32	Double	Matrix component.

Table A.155 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/InsertionDirection

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/**InsertionDirection**		
A node containing information about the design insertion direction.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.

Table A.156 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/BoundingBox

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/**BoundingBox**
A node containing information about the bounding box of the design.

Table A.157 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/BoundingBox/Point

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/BoundingBox/**Point**		
A node containing information about the 2 points representing the minimum and maximum points of the axes aligned to the bounding box.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.

Table A.158 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/CementGap

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/**CementGap**		
A node containing information about the die interface parameters related to cement space.		
Attribute	**Data type**	**Description**
Margin	Double	Cement space at the margin.
Center	Double	Cement space at the centre of preparation.

Table A.158 *(continued)*

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/**CementGap**		
A node containing information about the die interface parameters related to cement space.		
Attribute	**Data type**	**Description**
TransitionStart	Double	Distance from the margin at which the transition from cement space at the margin to cement space at the prep starts.
TransitionEnd	Double	Distance from the margin at which the transition from cement space at the margin to cement space at the prep stops.

Table A.159 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignSystem

IDS/Catalogs/CADDataCatalog/Designs/Design/**DesignSystem**		
A node containing information about the dental design system used to produce the design.		
Attribute	**Data type**	**Description**
Manufacturer	String	Software developer.
Software	String	Software package used for design.
Version	String	Software version.

Table A.160 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/TargetManufacturingSystem

IDS/Catalogs/CADDataCatalog/Designs/Design/**TargetManufacturingSystem**		
A node containing information about the manufacturing system for which the design has been optimized.		
Attribute	**Data type**	**Description**
Brand	String	Manufacturing brand.
Model	String	Manufacturing model.
Version	String	Manufacturing version.
ManufacturingType	String	Manufacturing technology for which the design been optimized. Valid values are: — MILL; — PRESSPRINT; — MOLD; — OTHER.

Table A.161 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignFiles

IDS/Catalogs/CADDataCatalog/Designs/Design/**DesignFiles**
A node containing information about the design files representing the design.

Table A.162 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignFiles/DesignFile

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignFiles/**DesignFile**		
A node referencing a design file.		
Attribute	**Data type**	**Description**
ReferenceID	String(36)	Identifier of the file defined in <FileCatalog>.

Table A.163 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignFiles/DesignFile/Teeth

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignFiles/DesignFile/**Teeth**
A node containing information about the teeth included in the design.

Table A.164 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/DesignFiles/DesignFile/Teeth/Tooth

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignFiles/DesignFile/Teeth/**Tooth**		
A node containing information about which tooth is including in the design.		
Attribute	**Data type**	**Description**
Number	Integer	Tooth Id in the tooth numbering system specified for the document.

Table A.165 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/InternalMarginLines

IDS/Catalogs/CADDataCatalog/Designs/Design/**InternalMarginLines**
A node containing information about a particular internal margin line.

Table A.166 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/InternalMarginLines/MarginPoint

IDS/Catalogs/CADDataCatalog/Designs/Design/InternalMarginLines/**MarginPoint**		
A node containing information about the margin point of a margin line.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.
Index	Integer	Point index within the array.

Table A.167 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/InternalMarginLines/DesignFile/Teeth

IDS/Catalogs/CADDataCatalog/Designs/Design/InternalMarginLines/DesignFile/**Teeth**
A node containing information about the teeth included in the design of the internal marginal lines.

Table A.168 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/InternalMarginLines/DesignFile/Teeth/Tooth

IDS/Catalogs/CADDataCatalog/Designs/Design/InternalMarginLines/DesignFile/Teeth/**Tooth**		
A node specifying which particular tooth the margin line refers to.		
Attribute	**Data type**	**Description**
Number	Integer	Tooth Identifier in the tooth numbering system specified for the document.

Table A.169 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/ExternalMarginLines

IDS/Catalogs/CADDataCatalog/Designs/Design/**ExternalMarginLines**
A node containing information about a particular external margin line.

Table A.170 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/ExternalMarginLines/MarginPoint

IDS/Catalogs/CADDataCatalog/Designs/Design/ExternalMarginLines/**MarginPoint**		
A node containing information about the margin point of a margin line.		
Attribute	**Data type**	**Description**
X	Double	X component.
Y	Double	Y component.
Z	Double	Z component.
Index	Integer	Point index within the array.

Table A.171 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/ExternalMarginLines/DesignFile/Teeth

IDS/Catalogs/CADDataCatalog/Designs/Design/ExternalMarginLines /DesignFile/**Teeth**
A node containing information about the teeth included in the design of the external marginal lines.

Table A.172 — Description of the directory of IDS/Catalogs/CADDataCatalog/Designs/Design/ExternalMarginLines/DesignFile/Teeth/Tooth

IDS/Catalogs/CADDataCatalog/Designs/Design/ExternalMarginLines /DesignFile/Teeth/**Tooth**		
A node specifying which particular tooth the margin line refers to.		
Attribute	**Data type**	**Description**
Number	Integer	Tooth Identifier in the tooth numbering system specified for the document.

A.4.6 XML schema for IDS <FileCatalog>

Files included as part of the <FileCatalog> shall be based on de facto industry standard or a format developed through an accredited standards development organization. It cannot contain any proprietary file type that do not meet that criteria. Examples include JPG, PNG, NC, STL, PLY, ZIP, DOC, PDF, UDX, DICOM.

Detailed information of XML schema for IDS <FileCatalog> and subdirectories is given in Table A.173 to Table A.178.

Table A.173 — Description of the directory of IDS/Catalogs/FileCatalog

IDS/Catalogs/**FileCatalog**
An enveloping node containing one or more <IDSFile> elements.

Table A.174 — Description of the directory of IDS/Catalogs/FileCatalog/IDSFile

IDS/Catalogs/FileCatalog/**IDSFile**		
A node referencing an internal file within the document.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A unique identifier for the file.
Name	String	A file or path name (Url format) of a file referenced in or associated with this IDS document.

Table A.174 *(continued)*

IDS/Catalogs/FileCatalog/**IDSFile**		
A node referencing an internal file within the document.		
Attribute	**Data type**	**Description**
FileType *	String(10)	The type (i.e. extension) of the file. Examples include: — DOCX; — PNG; — PDF; — ZIP; — STL.
FileSize	Long	The size of the file in bytes.
HashType	String(75)	The type of hash value to use for the file contents. Example is MD5.
Hash	String	Hash value for the algorithm used above.
Description	String	A description of the file's contents, purpose, etc.
IsCompressed	Boolean	If true, then this file is assumed to be compressed ("zipped").
CompressionAlgorithm	String(50)	The name of the compression algorithm used to compress the file (only if IsCompressed attribute is true). Valid values are: — 7Z; — BZ2; — ZIP; — RAR; — NONE; — OTHER.
ContainedInArchive	String(255)	The name of the compressed file (e.g. Zip) that contains this file. If set, then this name shall match the name of one of the other file attachments in the list.
FileContentType	ENUMERATION	A code indicating the content classification of the file. Valid values are: — PRESCRIPTION; — IMAGE; — WORKORDER; — SCAN; — DOC; — DESIGN; — CAM; — OTHER.

Table A.175 — Description of the directory of IDS/Catalogs/FileCatalog/IDSFile/AccountLogin

IDS/Catalogs/FileCatalog/IDSFile/**AccountLogin**
An element containing the text of an account login needed to access the associated IDS file.

Table A.176 — Description of the directory of IDS/Catalogs/FileCatalog/IDSFile/AccountPassword

IDS/Catalogs/FileCatalog/IDSFile/**AccountPassword**
An element containing the text of an account password needed to access the associated IDS file.

Table A.177 — Description of the directory of IDS/Catalogs/FileCatalog/IDSFile/Url

IDS/Catalogs/FileCatalog/IDSFile/**Url**
An element containing the text of an Url path to access the associated IDS file.

Table A.178 — Description of the directory of IDS/Catalogs/FileCatalog/IDSFile/Comments

IDS/Catalogs/FileCatalog/IDSFile/**Comments**
An element containing text comments regarding the associated IDS file. This node is a CDATA marked block and will not be validated by the XML schema.

A.4.7 XML schema for IDS <IDMapCatalog>

Detailed information of XML schema for IDS <IDMapCatalog> and subdirectories is given in Table A.179 to Table A.181.

Table A.179 — Description of the directory of IDS/Catalogs/IDMapCatalog

IDS/Catalogs/**IDMapCatalog**
An enveloping node that contains one or more <IDMapItem> elements.

Table A.180 — Description of the directory of IDS/Catalogs/IDMapCatalog/IDMapItem

IDS/Catalogs/IDMapCatalog/**IDMapItem**		
A node containing information about a key element.		
Attribute	**Data type**	**Description**
UUID *	String(36)	A unique identifier used to identify a key element that can be referenced in numerous places or that needs to have alternate identifiers associated with it.

Table A.181 — Description of the directory of IDS/Catalogs/IDMapCatalog/IDMapItem/AlternateID

IDS/Catalogs/IDMapCatalog/IDMapItem/**AlternateID**		
A node containing one ore more nodes defining an alternate identifier.		
Attribute	**Data type**	**Description**
IDRole	ENUMERATED	An enumerated value that indicates the perspective role that the alternate identifier comes from. Valid values are: — Originator; — Provider; — Broker; — Private. A value of "Private" is used to denote an internal or undeclared perspective and can be used for internal workflows.
SourceSystem	String(100)	A string value indicating the system, application, etc. that generated or "owns" the alternate identifier being associated with the UUID.
IDValue	String(100)	A string identifier being associated with the UUID of the parent node as alternative key or identifier.

A.5 XML schema for IDS <DataQuery> request

A IDS <DataQuery> node is a IDS communication intended to query information from the recipient system.

Detailed information of XML schema for IDS <DataQuery> and subdirectories is given in Table A.182 to Table A.193.

Table A.182 — Description of the directory of IDS/DataQuery

IDS/DataQuery		
The topmost node of an IDS message designed to query data from a system receiving the message. The data query message is comprised of several child nodes:		
<Query>	This node provides the elements that define the actual search conditions to be used by the receiving system.	
<ReferenceData>	This node is used by the requesting system to provide contextual (or "state") data that may or may not be of use to the receiving system, but is required to be included in the response message(s) so that the requesting system can maintain the context of the request.	
<DataRequest>	This node specifies the list of data elements the requestor would like returned in the response data.	
<ResponseData>	This node provides an unstructured part for the receiving system to populate with the results of the query request.	
<ResultStatus>	This node provides the status feedback of the query request.	
Attribute	**Data type**	**Description**
RequestUUID	String(36)	A globally unique identifier for this data query request. This UUID changes for each new request and should be provided by the originator.

Table A.183 — Description of the directory of IDS/DataQuery/Query

IDS/DataQuery/**Query**	
The node containing the actual query logic for the data query. The query itself is specified by including a combination of one or more <DataElement> nodes that specify the fields or objects of information being searched. Each <DataElement> node can contain one or more of either "match" node or "exclude" node, or both, that combine to identify the criteria used against the <DataElement>. The match/exclude nodes available are:	
<MatchValue> <ExlcudeValue>	This node type specifies a single value to be searched for.
<MatchRange> <ExcludeRange>	This node type specifies a starting value and an ending value to be searched for.
<MatchList> <ExcludeList>	This node type specifies a list of individual values to be searched for that are not within a sequential range or sequence. Each list item is specified using a match item child element.

Table A.184 — Description of the directory of IDS/DataQuery/Query/DataElement

IDS/DataQuery/Query/**DataElement**		
A node containing a single data point that should be factored into the query. The <Query> node can contain multiple <DataElement> nodes (which will be logically conjoined).		
Attribute	**Data type**	**Description**
Name	String(255)	The name property of the data object to be queried (e.g. "Dentist-LastName", "OrderUUID").

Table A.185 — Description of the directory of IDS/DataQuery/Query/DataElement/MatchList

IDS/DataQuery/Query/DataElement/**MatchList**
An optional node containing a list of match item values searched for within the specified data element to select the results for the query message.

Table A.186 — Description of the directory of IDS/DataQuery/Query/DataElement/ExcludeList

IDS/DataQuery/Query/DataElement/**ExcludeList**
A node containing a set of exclude item values for the specified data element to be excluded from the results.

Table A.187 — Description of the directory of IDS/DataQuery/Query/DataElement/MatchList/DataElement/MatchValue

IDS/DataQuery/Query/DataElement/MatchList/DataElement/**MatchValue**		
A node describing a value for the data element that will be sought. A <DataElement> can have multiple <MatchValue> nodes.		
Attribute	**Data type**	**Description**
Value	String(255)	The value to be compared.
MatchType	String(75)	The type of logical comparison that will be used when searching for the <MatchValue>. Valid values for this attribute are: — EXACT; — CONTAINS; — BEGINSWITH; — ENDSWITH.

Table A.188 — Description of the directory of IDS/DataQuery/Query/DataElement/MatchRange

IDS/DataQuery/Query/DataElement/**MatchRange**		
A node describing a range of possible values for the <DataElement> that will be sought.		
Attribute	**Data type**	**Description**
Begin	String(255)	The value indicating the start of the range.
End	String(255)	The value indicating the end of the range.
Inclusive	Bool	If true, then the <Begin> and <End> values should be included in the logical range. If false, then the <Begin> and <End> values should not be included in the range.

Table A.189 — Description of the directory of IDS/DataQuery/DataRequest/DataElement

IDS/DataQuery/DataRequest/**DataElement**		
A node describing a single data element that should be returned to the originator in the result set.		
Attribute	**Data type**	**Description**
Path	String(255)	The path (also known as the name) of a data element being requested for inclusion in <ResponseData>.

Table A.190 — Description of the directory of IDS/DataQuery/ReferenceData

IDS/DataQuery/**ReferenceData**
An optional node that can be used by the originating system to pass reference or contextual data that is to be included as-is in the returned message. This allows an originating system to include data that is potentially of meaning only to the originating system for the purpose of maintaining the "state" or context of the request independently.

Table A.191 — Description of the directory of IDS/DataQuery/ResponseData

IDS/DataQuery/**ResponseData**
A node containing the actual results returned to the originator. These results will be formatted using the information in the <DataRequest>.

Table A.192 — Description of the directory of IDS/DataQuery/ResultStatus

IDS/DataQuery/**ResultStatus**		
A node containing information about the status of the <DataRequest>. This node is optional for incoming requests, but required for data returns.		
Attribute	**Data type**	**Description**
StatusName	String(255)	The name of the status (e.g. “Completed”).
StatusID	String(255)	Identifier of the status.

Table A.193 — Description of the directory of IDS/DataQuery/ResultStatus/StatusText

IDS/DataQuery/ResultStatus/**StatusText**
An optional node used to pass additional text messages in full as an extension of the <StatusName> and <StatusID> attributes. <StatusText> elements can be customized to include references to specific UUIDs, identifiers, etc. and can be used to provide enhanced or lengthy status information.

A.6 XML schema for IDS <Update> request

An IDS Update is an IDS communication intended to request a modification to a previously existing IDS submission.

Detailed information of the XML schema for IDS <Update> is given in Table A.194 to Table A.198.

Table A.194 — Description of the directory of IDS/Update

IDS/Update		
The top-most node of the update request.		
Attribute	**Data type**	**Description**
RequestUUID *	String(36)	A globally unique identifier for this update request. This UUID changes for each new request and should be provided by the originator.

Table A.195 — Description of the directory of IDS/Update/Submission

IDS/Update/**Submission**		
A node containing information about the pre-existing IDS submission that is being targeted for the update.		
Attribute	**Data type**	**Description**
SubmissionUUID *	String(36)	A globally unique identifier of a previously transmitted IDS submission message that is being targeted for update.

Table A.196 — Description of the directory of IDS/Update/Submission/DataElement

IDS/Update/Submission/**DataElement**		
A node containing the data element that is being targeted for modification.		
Attribute	**Data type**	**Description**
Path	String	An XML path language-style statement that will be used to find the data point in the original submission that is to be modified.

Table A.197 — Description of the directory of IDS/Update/Submission/DataElement/OriginalValue

IDS/Update/Submission/DataElement/**OriginalValue**
A node whose inner text contains the original value of the submission data point that is being targeted for modification. This value can be used for consistency testing by the system receiving the update request.

Table A.198 — Description of the directory of IDS/Update/Submission/DataElement/NewValue

IDS/Update/Submission/DataElement/**NewValue**
A node whose inner text contains the desired value of the submission data point that is being targeted for modification.

A.7 XML schema for IDS <Notification> request

An IDS Notification is an IDS communication intended to provide a notification of an event or status change with regards to a specified element of a previously transmitted IDS document.

Detailed information of the XML schema for IDS <Notification> and subdirectories is given in Table A.199 to Table A.201.

Table A.199 — Description of the directory of IDS/Notification

IDS/Notification		
The top-most node of the notification. A <Notification> can contain one or more <Notice> nodes.		
Attribute	**Data type**	**Description**
TrackingUUID *	String(36)	A globally unique identifier for this notification.

Table A.200 — Description of the directory of IDS/Notification/Notice

IDS/Notification/**Notice**		
A node describing a single notice for a single IDS object.		
Attribute	**Data type**	**Description**
ReferenceUUID	String(36)	A UUID that uniquely identifies an element of a previously transmitted IDS which is the context of the notice. A <ReferenceUUID> can be the UUID identifier of a submission, case, order, dentist, etc.
ReferenceType		Identifies the <ReferenceUUID> provided. For example, <OrderUUID>, <SubmissionUUID>, <CaseUUID>.
SubjectID		A subject context identifier for the notice.
SubjectName		The name of the subject context. i.e. “Submission accepted”, “Update applied”, “Missing data”, etc.
NoticeClass		The type of notice that is being provided (e.g. “Warning”, “Error”, “Info”, “Confirmation”).

Table A.201 — Description of the directory of IDS/Notification/NoticeData

IDS/Notification/**NoticeData**
An optional element whose inner text can contain either text or an unstructured XML payload providing additional information/data within the context of the notice.

A.8 XML schema for IDS <ProductCatalog>

Detailed information of the XML schema for IDS <ProductCatalog> and subdirectories is given in Table A.202 to Table A.217.

Table A.202 — Description of the directory of IDS/ProductCatalogs

IDS/ProductCatalogs
A node containing information used to publish one or more provider’s or broker’s product catalog(s).

Table A.203 — Description of the directory of IDS/ProductCatalogs/ProductCatalog

IDS/ProductCatalogs/**ProductCatalog**		
A node containing information used to publish one or more provider's or broker's product catalog(s).		
Attribute	**Data type**	**Description**
UUID *	String(36)	A unique identifier for referencing this catalog.
CatalogProvider	String	The catalog provider's name.
CatalogName	String	A name given to this catalog.
CatalogSourceSystem	String	A string identifying the system that generated the catalog or from which the catalog originates.
CatalogVersion	String	A string identifying the version of this catalog.

Table A.204 — Description of the directory of IDS/ProductCatalogs/ProductCatalog/Product

IDS/ProductCatalogs/ProductCatalog/**Product**		
A node containing information about a single product within the <ProductCatalog>.		
Attribute	**Data type**	**Description**
UUID	String(36)	A unique identifier assigned to the product for reference purposes.
ProductCode	String	A human friendly string code identifying the product to the provider or broker system.
ProductName	String	A human friendly name given to the product by the publishing system.
ProductClass	String	An optional name used to associate similar products into a group.

Table A.205 — Description of the directory of IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU

IDS/ProductCatalogs/ProductCatalog/Product/**ProductSKU**		
A node containing information about a single productSKU within the <Product> definition. A productSKU represents a unique combination of descriptive attributes that vary within a product. For example, a screw can come in different sizes. The base definition of the screw would be defined as a product, and each different size of that screw available would have a different SKU.		
Attribute	**Data type**	**Description**
UUID	String(36)	A unique identifier assigned to the productSKU for reference purposes.
Code	String	A human friendly code assigned to the productSKU from the publishing system.
Name	String	A human friendly name assigned to the productSKU from the publishing system.
DateUTCDiscontinued	DateTime	The either date or time, or both, in UTC format that the productSKU was discontinued or cancelled.
Brand	String	A brand identifier.

Table A.206 — Description of the directory of IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductDescriptions

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/**ProductDescriptions**
A node containing one or more <ProductDescription> nodes. Multiple product descriptions can be provided for a given product SKU for different purposes and in different languages. For example, one description can be suited to printing on order forms where another can be better for display on a web page.