
**Dentistry — Interoperability of CAD/
CAM systems**

Médecine bucco-dentaire — Interopérabilité des systèmes de CFAO

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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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).

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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 9, *CAD/CAM Systems*.

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.

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OXDIG LLC

4141 MacArthur Boulevard

Newport Beach, CA 92660 USA

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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 codes*

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*

ISO 19429:2015, *Dentistry — Designation system for dental implants' after '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, 2012

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942, ISO 16443, ISO 18739, W3C XML1.0, W3C XSD 1.1 and the following apply.

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

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

NOTE 1 Throughout the IDS (interface for dental CAD/CAM systems) schema there are terms that have special meaning or definition. Understanding the use of these terms is the key to well-defined IDS documents that all parties can understand universally.

NOTE 2 The IDS schema defines several peer level nodes immediately within the enveloping root <IDS> element that 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.

NOTE 3 In addition to the transactional nodes mentioned above, the IDS schema also defines several nodes that provide traceability and source identification features as well as provide information on how to reply to a document transaction.

3.1 General terms

3.1.1

broker

entity that acts as a middleman or intermediary

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

3.1.2

originator

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

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

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

3.1.3

provider

entity (company, lab, etc.) that is responsible for providing the services or products that are being requested in an order

Note 1 to entry: Most often, this would be a dental laboratory or manufacturer.

3.2 Terms and definitions relating to XML content

3.2.1

CADDataCatalog

collection of nodes describing CAD data associated with one or more of the orders and/or restorations

Note 1 to entry: It can include digital scan and/or design files, etc.

3.2.2

case

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

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

3.2.3

catalogs

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.

3.2.4

DeliveryRequest

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

Note 1 to entry: A delivery may be physical, electronic, or both.

3.2.5

dentist

dentist or responsible clinician who requested the order

3.2.6**DentistCatalog**

collection of *dentist* (3.2.5) nodes that provides attribute and elements to define the dentists being referenced within this document

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

3.2.7**ExtraInfo**

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

EXAMPLE Many of the elements will contain child nodes with the suffix "ExtraInfo" (i.e. <DentistExtraInfo>, <OrderExtraInfo>, etc. These sections are intended to be areas that can be used to extend the defined schema with proprietary or undefined XML. For example, an implementation may use one (or more) of these sections to embed XML that is only of use to the implementer for an internal workflow. Another use could be two business partners using these sections 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 will ignore the contents of these sections so they will not be validated as part of the IDS schema. It is highly recommended that if these sections 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>
```

3.2.8**FileCatalog**

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

3.2.9**host service**

system that receives the IDS document and processes the contents

3.2.10**IdMapCatalog**

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

3.2.11**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 according to the needs of the parties exchanging information.

3.2.12**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 might be created or manufactured by a different provider. Each order contains its own delivery (or reply) instruction nodes.

3.2.13

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 may omit those nodes when not needed.

3.2.14

parcel

physical package that is mailed

3.2.15

patient

patient for whom a case is being manufactured

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

3.2.16

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 may be referenced in multiple <Order> nodes and/or multiple <Case> nodes the patient information is grouped into a catalog.

3.2.17

prescription

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

3.2.18

ProductCatalog

means for a provider or broker 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.

3.2.19

ProductSKU

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

3.2.20

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.

3.2.21

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 would be equivalent to receiving a physical package [*parcel* (3.2.14)] containing one or more cases. In the digital IDS realm, the submission may represent any combination of one or more physical and/or digital cases that are being "submitted" to a provider for production.

3.2.22**UUID**

universally unique identifier. It will be 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 1 to entry: UUIDs are a means of identifying key elements within the document.

Note 2 to entry: An <IdMap> section within the <Catalogs> section 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> section but each UUID shall be 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 may not be used on any other element as a key identifier and may only be used as a reference in other elements needing to associate with that specific dentist.

3.2.23**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 (American Dental Association) 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 megabytes (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. The XSD definition document is available by e-mailing standards@ada.org.

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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, stored in ISO 8601.
- d) All data types refer to the XML schema data types: string, integer, boolean, dateTime, etc.

A.2 XML schema for IDS root section

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.

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.
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	An identifying name of a 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.

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 may be one of a variety of formats.
AddressType	String(5)	An Enumerated value identifying the format of the address provided. Acceptable values are: <ul style="list-style-type: none"> — URL — WCF — MSMQ — IPV4 — IPV6 — UNC

A.3 XML schema for IDS <Submission> request

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 would change for each new submission and should be provided by the Originator.
DateUTCSubmitted	DateTime UTC	The date and time the Submission was first submitted to the receiver.
DateUTCReceived	DateTime UTC	The date and time 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.

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 <IdMap-Catalog> section 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 as follows: LAB — Lab DOC — Dentist SRV — A Broker or intermediary service OTH — Other
FacilityId	String (50)	The Originator's Id for the facility where this Submission originated.
FacilityUTCOffset	Time	The UTC Offset for this Originator facility. Note that this is an xs: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.

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 (Zipcode in the US).
Country *	String(3)	Three-character country code signifying the Originator's country. The value should conform to the ISO 3166-1 Alpha-3 standard.

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 (Zipcode in the US).
Country *	String(3)	Three-character country code signifying the Originator's country. The value should conform to the ISO 3166-1 Alpha-3 standard.

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(254)	Contact email address.

IDS/Submission/Originator/Localization		
The Originator's localization preferences.		
Attribute	Data Type	Description
Language	String(4)	A 4 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 3-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.

IDS/Submission/Originator/OriginatorExtraInfo
A Node allowing for un-validated XML data to augment the Originator 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 may be added by different systems or partners minimizing the risk of breaking the IDS structures.

IDS/Submission/Broker *		
Contains 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 Id used internally by the Originator to refer to Broker.
BrokerIdProvider	String (50)	The Id used internally by the Provider (assuming there is only one Provider) for the Broker.
BrokerIdBroker	String (50)	The Id 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 as follows: LAB — Lab DOC —Dentist SRV — A Broker or intermediary service OTH — Other
FacilityId	String (50)	The Broker's Id for the facility where this Submission was received.
FacilityUTCOffset	Integer	The UTC Offset for this Broker facility. Note that this is an xs: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 Id of the Broker's sub-system that received this submission.

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 (Zipcode in the US).
Country *	String(3)	Three-character country code signifying the Originator's country. The value should conform to the ISO 3166-1 Alpha-3 standard.

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(254)	Contact email address.

IDS/Submission/Broker/Localization		
The Broker's localization preferences.		
Attribute	Data Type	Description
Language	String(4)	A 4-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 3-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.

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 may be added by different systems or partners minimizing the risk of breaking the IDS structures.

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

IDS/Submission/Providers/Provider		
A node describing a single Provider.		
Attribute	Data Type	Description
ProviderIdOriginator *	String(50)	The Id used by the Originator to identify this Provider.
ProviderIdProvider	String(50)	The Id used by the Provider to identify itself.
ProviderIdBroker	String(50)	The Id 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. (Example: LAB). Enumeration Choices: LAB — Lab DOC — Dentist SRV — A Broker or intermediary service OTH — Other
FacilityId	String (50)	The Provider's Id 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 Id of the Provider's sub-system that generated this submission.

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 should conform to the ISO 3166-1 Alpha-3 standard.

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(254)	Contact email address.

IDS/Submission/Providers/Provider/Localization		
The Provider's localization preferences.		
Attribute	Data Type	Description
Language	String(4)	A 4-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 3-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.

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.

NOTE The products listed here are products that are part of an <Order> and should NOT be confused with products defined in the <ProductCatalog> section which are a publication of products available by a Provider.

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 Id used internally by the Originator for this Product.
ProductIdProvider	String (50)	The Id used internally by the Provider for this Product, if applicable.
ProductIdBroker	String (50)	The Id used internally by the Broker for this Product, if applicable.
ProductType *	String(75)	A code designating the type of product. Valid values are in quotes ("") definitions follow: "FULLCROWN" — Monolithic Restoration. "34CROWN" — Crown with 3/4 Coverage of the tooth structure "ABUTMENT" — Custom 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

		<p>“CLASP” — Clasp engaging a tooth</p> <p>“COPING” — Substructure of a crown</p> <p>“CROWN” — Crown composed of more than one component.</p> <p>“CROWNPONTIC” — Pontic that is a full crown and a not a substructure.</p> <p>“INLAY” — Inlay</p> <p>“ONLAY” — Onlay</p> <p>“OTHER” — Any other type of restoration not included in the enumerated list.</p> <p>“PONTIC” — Substructure for a Pontic used in a bridge.</p> <p>“POSTANDCORE” — Post and Core</p> <p>“TELESCOPECROWN” — Telescopic Crown consisting of multiple substructures</p> <p>“VENEER” — Veneer</p> <p>“WAXUP” — Diagnostic Waxup</p>
ProductDescription	String	Description of the product.

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 as follows: USPS — US. Postal Service UPS — United Parcel Service FEDEX — FedEx DHL — DHL Express ONTRAC — OnTrac 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 Id 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.

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

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 <i>Provider's</i> 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 should conform to the ISO 3166-1 Alpha-3 standard.

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

IDS/Submission/Cases/Case *		
A node describing a single <i>Case</i> in the submission item.		
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> section along with any alternate identifiers from external (non IDS) sources.
CaseDateUTCCreated	DateTime UTC	The date and time the <i>Case</i> 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 the <i>Case</i> was first submitted to a Provider or Broker.
CaseDateUTCReceived	DateTime UTC	The date and time the <i>Case</i> was actually received by the Provider (or Broker).

IDS/Submission/Cases/Case/Patient		
A element referencing a patient for this <i>Case</i> .		
Attribute	Data Type	Description
ReferenceID *	String(36)	A reference ID to a UUID of a patient defined within the <PatientCatalog> section.

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

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

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 as follows: S — Success F — Failure R — Retry P — Pending (use this for new submissions)

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

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 as follows: 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.

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 may be added by different systems or partners minimizing the risk of breaking the IDS structures.

A.4 XML schema for IDS <Catalogs> section

A.4.1 IDS/Catalogs

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

A.4.2 XML schema for IDS <DentistCatalog> section

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

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> section along with any alternate identifiers from external (non IDS) sources.
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.

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 her office manager).
Phone	String (255)	Contact phone number.
Fax	String (255)	Contact fax number.
MobilePhone	String (255)	Contact mobile number.
Email	String(254)	Contact email address.

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

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", etc.
IssueDate	Date	The date the license was issued.
ExpiryDate	Date	The date the license will expire.

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 may be added by different systems or partners minimizing the risk of breaking the IDS structures.		

A.4.3 XML schema for IDS <PatientCatalog> section

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

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 <IdMapCatalog> section 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 name or 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 as follows: 0 — Not Known 1 — Male 2 — Female 9 — Not Applicable

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 should conform to the ISO 3166-1 Alpha-3 standard.

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).
Phone	String (255)	Contact phone number.
Fax	String (255)	Contact fax number.
MobilePhone	String (255)	Contact mobile number.
Email	String(125)	Contact email address.

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

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> section

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> section along with any alternate identifiers from external (non IDS) sources.
OrderType *	String (75)	Code designating the type of Order. Valid values are as follows: REMOVABLE IMPLANT FIXED SURGICAL-UIIDE TRYIN OTHER
OrderDateUTCCreated	DateTime UTC	The date and time the Order was actually created by the Originator.
OrderDateUTCSubmitted	DateTime UTC	The date and time the Order was first submitted to the Broker or Provider.
OrderDateUTCReceived	DateTime UTC	The date and time 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 Guid from a previously submitted order to which an order is related or connected.
ReferenceType	ENUMERATION	Valid values are: — REMAKE — ADJUST — TRYIN — OTHER

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.

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 <Dentist-Catalog> section.

IDS/Catalogs/OrderCatalog/Order/OriginalRx		
A node containing information about the original Rx 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> section 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.
PrescriptionDateUTC-Originated *	DateTime UTC	The date and time that the Prescription was originated.
Prescription-DateUTCDeliveryRequested	DateTime UTC	The date and time that the Prescription was requested for delivery.

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> section.
ProviderFacilityId	String(50)	The Id 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.

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

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> section 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 systems representing a specific shade for a NON Tooth specific product (i.e. denture).
ShadeSystem	String	The Name of the recognized dental shading system used. Requires 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)	A Unique 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 a the ReferenceOrderUUID is populated on the Order node.
ReferenceType	ENUMERATION	Valid values are: <ul style="list-style-type: none"> — 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 Chromoscop (Ivoclar Vivadent AG, Schaan, Liechtenstein), Trubyte Bioform (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.

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> section 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: 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 Chromoscop (Ivoclar Vivadent AG, Schaan, Liechtenstein), Trubyte Bioform (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.

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.

IDS/Catalogs/OrderCatalog/Order/Products/Product/ProductPricing/ProductDiscount		
A node containing information about the discount pricing of this Product. There may 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 percent value. If the IsPercent attribute is omitted, then "False" is assumed.

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

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 the following: 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.

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

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 using ISO 3950 Numbering.

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/Components
A node containing information about a single Tooth's special sub-Components.

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> section along with any alternate identifiers from external (non IDS) sources.
ComponentType	String(50)	A code designating the type of product. Valid values are in quotes (") definitions follow: "FULLCROWN" — Solid, single piece restoration. "34CROWN" — Crown with 3/4 Coverage of the tooth structure "ABUTMENT" — Custom 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" — Venner "WAXUP" — Diagnostic Waxup
UnitPrice	Decimal	The Component's price-per-unit.
Quantity	Integer	The number of Units requested.

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

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

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

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

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

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

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

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

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 Chromoscop (Ivoclar Vivadent AG, Schaan, Liechtenstein), Trubyte Bioform (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.		

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.

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)

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 as follows: LIGHT DARK
OcclusalColor	String(50)	The colour of the Occlusal. Possible values are based on the Vendor in the Shading node.

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 as follows: HIGH NATURAL BISQUE MECHANICALPOLISH OTHER
Texture	String(75)	A code designating the texture. Valid values are as follows: SMOOTH ROUGH HORIZONTALGROOVES VERTICALGROOVES PERIKYMATA MAMMELONS OTHER

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 as follows: TRANSFERCOPING SOFTTISSUEMODEL OTHER
Parameter	String(255)	Additional parameter on the Ancillary Procedures.

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Teeth/Tooth/ AdjacentTeethNodes		
A node containing a list of AdjacentToothNodes 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 UIDs designating the Adjacent Teeth Nodes.
Parameter	String(255)	A extra parameter of the Adjacent Teeth Nodes.

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.

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 (business, lab, etc) supplying the implant.
System *	String (255)	The implant system to be used. Should be specific to the Manufacturer and is similar to a product line.
Size *	Decimal	A number indicating the diameter of the implant
Length	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 *	Enum	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 BodyMaterialType of the Implant
InterfaceMaterialType *	String (255)	A string value identifying the InterfaceMaterialType of the Implant
ImplantBarId *	String(36)	An identifier assigned to an ImplantBar defined in a subsequent ImplantBar node in a DesignFiles section.

IDS/Catalogs/OrderCatalog/Order/Products/Product/Restorations/Restoration/Features		
A node containing a list of Features for this Restoration.		

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.

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.		

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.

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.

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.

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.

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.

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 may be added by different systems or partners minimizing the risk of breaking the IDS structures.

IDS/Catalogs/OrderCatalog/Order/Products/Product/**FileAttachments**

A node containing a list of File Attachments for this Product.

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 ID that matches files defined in the File Catalog elements.

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 may be added by different systems or partners minimizing the risk of breaking the IDS structures.

IDS/Catalogs/OrderCatalog/Order/**OrderPricing**

A node containing information about the pricing of this Order.

IDS/Catalogs/OrderCatalog/Order/OrderPricing/OrderDiscount		
A node containing information about the discount pricing of this Order. There may be multiple OrderDiscount nodes for a the OrderPricing 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 percent value. If the IsPercent attribute is omitted, then "False" is assumed.

IDS/Catalogs/OrderCatalog/Order/FileAttachments		
A node containing a list of File Attachments for this Order.		

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 ID that matches files defined in the File Catalog elements.

IDS/Catalogs/OrderCatalog/Order/ParcelEnclosures		
A node containing a list of Enclosures for this Order.		

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

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.		

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.		

IDS/Catalogs/OrderCatalog/Order/OrderComments		
A node that contains one or more OrderComment elements.		

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 might 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.

IDS/Catalogs/OrderCatalog/Order/DeliveryRequests		
A node containing a list of Delivery Request sub-nodes.		

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.
IsRush	Boolean	If True, then this order should be rushed for faster delivery.

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 Id 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 id with the specified carrier. The Provider will charge the delivery to this account.

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 should conform to the ISO 3166-1 Alpha-3 standard.

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 ID that matches files defined in the File Catalog elements.

IDS/Catalogs/OrderCatalog/Order/DeliveryRequest/Contact		
A node containing information about the Contact person to use for the delivery of this Order. This person may 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(254)	Contact email address.

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.

IDS/Catalogs/OrderCatalog/Order/OrderExtraInfoXML

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 may be added by different systems or partners minimizing the risk of breaking the IDS structures.

IDS/Catalogs/OrderCatalog/Order/TeethInfo

An enveloping node to contain elements describing additional and/or surrounding teeth that may be relevant to the restoration(s) and order.

IDS/Catalogs/OrderCatalog/Order/TeethInfo/Extracted

A node containing information about extracted teeth.

Attribute	Data Type	Description
Number	Int	A tooth number identified by the tooth numbering method specified by ISO 3950.

IDS/Catalogs/OrderCatalog/Order/TeethInfo/Edentulous

A node containing information about Edentulous (missing) teeth.

Attribute	Data Type	Description
Number	Int	A tooth number identified by the tooth numbering method specified by ISO 3950.

IDS/Catalogs/OrderCatalog/Order/Designs

Node containing the designs for the order.

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 CADD-ataCatalog.

A.4.5 XML schema for IDS <CADDDataCatalog> section**IDS/Catalogs/CADDDataCatalog**

A container node containing information about CAD scans and CAD designs.

Attribute	Data Type	Description
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IDS/Catalogs/CADDDataCatalog/Scans

A container node containing information about all of the CAD Scans contained in the document.

IDS/Catalogs/CADDDataCatalog/Scans/Scan

A node containing information about each individual scan

Attribute	Data Type	Description
UUID *	String(36)	Unique
Name	String (100)	Scan name

ScanType	String (100)	Scan Type: 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 ("-").

IDS/Catalogs/CADDataCatalog/Scans/Scan/ObjectMaterial

A node containing information about material from which scanned object was made. Could be used to distinguish natural dentition, dental stone, plaster, PVS.

Attribute	Data Type	Description
Name	String (100)	Name of the material

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 #

IDS/Catalogs/CADDDataCatalog/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

IDS/Catalogs/CADDDataCatalog/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

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

IDS/Catalogs/CADDDataCatalog/Scans/Scan/Teeth/Tooth/		
A node containing information about a particular tooth		
Attribute	Data Type	Description
Number	Integer	Tooth Number according to ISO 3950.

IDS/Catalogs/CADDDataCatalog/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

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

IDS/Catalogs/CADDDataCatalog/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

IDS/Catalogs/CADDataCatalog/Scans/Scan/ TransformationMatrix		
A node containing information about transformation matrix which needs to be applied to the scan to bring it to same coordinate system as the rest of the scans, for example, for the purpose of bite registration. The matrix has 3x4 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

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

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

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

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

IDS/Catalogs/CADDataCatalog/Scans/Scan/ScanFiles/ ScanFile		
A node containing the reference to the Scan File		
Attribute	Data Type	Description
ReferenceID *	String (36)	Id of a file listed FileCatalog node

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

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

IDS/Catalogs/CADDDataCatalog/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

IDS/Catalogs/CADDDataCatalog/Designs/Design/DesignProperties/ ToolRadiusCompensation		
A node containing information about whether 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.

IDS/Catalogs/CADDDataCatalog/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.

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

IDS/Catalogs/CADDDataCatalog/Designs/Design/DesignProperties/SprueLocation/ MarkPoint		
A node containing positional information about 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

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

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

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

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

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

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

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

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

IDS/Catalogs/CADDDataCatalog/Designs/Design/DesignProperties/ImplantPosition/ ImplantLibraryFile		
A node containing information about library file.		
Attribute	Data Type	Description
ReferenceID	String(36)	The UUID Id of a file defined In a FileCatalog section.

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

IDS/Catalogs/CADDDataCatalog/Designs/Design/DesignProperties/ImplantPosition/ MarginLine/MarginPoint		
A node containing information about 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

IDS/Catalogs/CADDDataCatalog/Designs/Design/DesignProperties/ImplantPosition/DesignFile/ ImplantTransformationMatrix		
A node containing information about transformation matrix which needs to be applied to the implant to bring it to same coordinate system as the rest of the scans, for example, for the purpose of bite registration. The matrix has 3x4 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

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

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ BoundingBox		
A node containing information about bounding box of the design.		
Attribute	Data Type	Description

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

IDS/Catalogs/CADDataCatalog/Designs/Design/DesignProperties/ CementGap		
A node containing information about 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.
TransitionStart	Double	Distance from the margin at which transition from cement space at the margin to cement space at the prep starts.
TransitionEnd	Double	Distance from the margin at which transition from cement space at the margin to cement space at the prep stops.

IDS/Catalogs/CADDataCatalog/Designs/Design/ DesignSystem		
A node containing information about 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

IDS/Catalogs/CADDataCatalog/Designs/Design/ TargetManufacturingSystem		
A node containing information about 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	MILL, PRESS, PRINT, MOLD, OTHER	Manufacturing technology for which the design been optimized.

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

IDS/Catalogs/CADDDataCatalog/Designs/Design/DesignFiles/DesignFile		
A node referencing a design file.		
Attribute	Data Type	Description
ReferenceID	String (36)	Id of the file in FileCatalog

IDS/Catalogs/CADDDataCatalog/Designs/Design/DesignFiles/DesignFile/Teeth		
A node containing information about teeth included in the design.		
Attribute	Data Type	Description

IDS/Catalogs/CADDDataCatalog/Designs/Design/DesignFiles/DesignFile/Teeth/Tooth		
A node containing information which tooth is including in the design.		
Attribute	Data Type	Description
Number	Integer	ToothID in the tooth numbering system specified for the document.

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

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IDS/Catalogs/CADDDataCatalog/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

IDS/Catalogs/CADDDataCatalog/Designs/Design/InternalMarginLines/DesignFile/Teeth		
Attribute	Data Type	Description

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

IDS/Catalogs/CADDDataCatalog/Designs/Design/ExternalMarginLines		
A node containing information about a particular internal margin line.		

IDS/Catalogs/CADDDataCatalog/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

IDS/Catalogs/CADDDataCatalog/Designs/Design/ExternalMarginLines /DesignFile/Teeth		

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

A.4.6 XML schema for IDS <FileCatalog> section

Files included as part of the FileCatalog section 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, etc.

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

IDS/Catalogs/FileCatalog/IDSFile		
A node referencing an external 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.
FileType *	String(10)	The type (i.e. extension) of the file. Example: 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 is "true"). Valid values are as follows: 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

IDS/Catalogs/FileCatalog/IDSFile/AccountLogin
An element containing the text of an Account login needed to access the associated <IDSFile>.

IDS/Catalogs/FileCatalog/IDSFile/AccountPassword
An element containing the text of an Account password needed to access the associated <IDSFile>.

IDS/Catalogs/FileCatalog/IDSFile/Url
An element containing the text of an URL path to access the associated <IDSFile>.

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

A.4.7 XML schema for IDS <IdMapCatalog> section

IDS/Catalogs/IdMapCatalog
An enveloping node that contains one or more <IdMapItem> elements.

IDS/Catalogs/IdMapCatalog/IdMapItem		
Attribute	Data Type	Description
UUID *	String(36)	A unique identifier used to identify a key element that may be referenced in numerous places or that needs to have alternate identifiers associated with it.

IDS/Catalogs/IdMapCatalog/IdMapItem/AlternateId		
Attribute	Data Type	Description
IdRole	ENUMERATED	An enumerated value that indicates the perspective role that the alternate id 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 id.

A.5 XML schema for IDS <DataQuery> request

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

IDS/DataQuery	
The top most node of a IDS message designed to query data from a system receiving the message. The DataQuery 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 <i>requesting</i> 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 section.	
<ResponseData>	This node provides an unstructured part for 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 DataQuery request. This UUID would change for each new request and should be provided by the Originator.

IDS/DataQuery/Query		
The node containing the actual query logic for the DataQuery. 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 the “Match” and/or “Exclude” nodes 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 <MatchItem> child element.	

IDS/DataQuery/Query/DataElement		
A node containing a single data point that should be factored into the query. The Query node may 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. “DentistLastName”, “OrderUUID”, etc.).

IDS/DataQuery/Query/DataElement/MatchList	
An optional node containing a list of “MatchItem” values searched for within the specified DataElement to select the results for the query message.	

IDS/DataQuery/Query/DataElement/ExcludeList	
A node containing a set of “ExcludeItem” values for the specified DataElement to be exclude from the results.	

IDS/DataQuery/Query/DataElement/MatchList/DataElement/MatchValue		
A node describing a value for the DataElement that will be sought. A DataElement may 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 Match Value. Valid values for this attribute are as follows: EXACT CONTAINS BEGINSWITH ENDSWITH

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IDS/DataQuery/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.

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 (aka name) of a data element being requested for inclusion in ResponseData section.

IDS/DataQuery/ReferenceData		
Attribute	Data Type	Description
An optional node that can be used by the originating system to pass reference or contextual data that shall 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 “state” or context of the request independently.		

IDS/DataQuery/ResponseData		
A node containing the actual results returned to the Originator. These results will be formatted using the information in the ResultsRequested.		

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)	An ID of the status.

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 may be customized to include references to specific UUIDs, identifiers, etc. and may be used to provide enhanced or lengthy status information.		

A.6 XML schema for IDS <Update> request

A IDS Update is a IDS communication intended to request a modification to a previously existing IDS Submission.

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 would change for each new request and should be provided by the Originator.

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.

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

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.		

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

A IDS Notification is a 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.

IDS/Notification		
The top-most node of the Notification. A Notification may contain one or more "Notice" elements.		
Attribute	Data Type	Description
TrackingUUID *	String(36)	A Globally Unique Identifier for this Notification.

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 may be the UUID identifier of a Submission, Case, Order, Dentist, etc.
ReferenceType		Identifies the ReferenceUUID provided. Eg. "OrderUUID", "SubmissionUUID", "CaseUUID", etc.
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", etc.).

IDS/Notification/NoticeData		
An optional element whose inner text may 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> section

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

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 to which the catalog originates from.
CatalogVersion	String	A string identifying the version of this catalog.

IDS/ProductCatalogs/ProductCatalog/Product		
A node containing information about a single Product within the Product Catalog.		
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.

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 may 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 be considered a SKU.		
Attribute	Data Type	Description
UUID	String(36)	A unique identifier assigned to the product SKU for reference purposes.
Code	String	A human friendly code assigned to the Product SKU from the publishing system.
Name	String	A human friendly name assigned to the product SKU from the publishing system.
DateUTCDiscontinued	DateTime	The Date (and/or time in UTC format) that the product SKU was discontinued or canceled.
Brand	String	A brand identifier.

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

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductDescriptions/ProductDescription		
A node containing a Product Description.		
Attribute	Data Type	Description
Format	ENUMERATED	One of an enumerated list of codes indicating the format of the text supplied in the description element. Valid values are — TEXT — HTML — RTF — XML
IntendedUse	String	A code or string indicating the intended use of the description. E.g. "Web", "print", "invoice", etc.
LanguageID	String	A code indicating the language used for the description. ISO-639-2 codes are recommended.

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductDescriptions/ProductDescription/Description		
An element containing the actual description text for the ProductSKU using the language and format specified in the parent node attributes.		

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductPricing		
A node containing one or more Price details for a Product SKU.		

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductPricing/ProductPrice		
A node containing Pricing Details for a ProductSKU.		
Attribute	Data Type	Description
ScheduleCode	String	A Code used as reference to a schedule or grouping of related prices.
MinimumQty	decimal	A number indicating the minimum quantity needed to qualify for this price.
Amount	decimal	The actual price of an individual unit of this ProductSKU.
CurrencyID	String	A code indicating the currency used for the price.

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductAttributes		
A node containing one or more Product Attribute definitions for the current ProductSKU.		

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductAttributes/ProductAttribute		
A node containing a product attribute describing a ProductSKU.		
Attribute	Data Type	Description
UUID	String(36)	A unique identifier used as reference for this attribute.
Name	String	A name assigned to this attribute.
Value	String	The value of this attribute for this specific ProductSKU.

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductComponents		
A node containing one or more Product Component nodes.		

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductComponents/ProductComponent		
A node containing a product component included in or a part of a ProductSKU.		
Attribute	Data Type	Description
UUID	String(36)	A unique identifier referencing another ProductSKU by its UUID as being part of this product. A ProductComponent can be another Product.
QtyMin	Decimal	A minimum number of this component that is included as part of the parent ProductSKU.
QtyMax	decimal	A maximum number of the referenced component(s) that are included in the parent ProductSKU.
ComponentUse	ENUMERATION	One of an enumerated list of values that indicate how this component is used or provided when delivering the ProductSKU. Valid values are: — INCLUDED — SELECTFROM — ADDON
SelectFromGroup	String	Specifies a group name/code that can be used to provide a list of components from which 1 or more units is selected to be included as part of the product.

IDS/ProductCatalogs/ProductCatalog/Product/ProductSKU/ProductOrderOptions		
A node containing one or more defined options that can be available at the time of order or case creation for the specified ProductSKU.		