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# Automated Print Procurement

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CIP4 THANKS ITS PARTNER LEVEL MEMBERS



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# 1 Introduction

This Interoperability Conformance Specification (ICS) document standardizes business transactions between a *Print Buyer* and a *Print Provider*. In particular, this document defines a subset of the **XJDF** and **PrintTalk** specifications that has relevance for automated print procurement. The price negotiation workflow that is defined by the **RFQ** and **Quotation Business Objects** in **PrintTalk** is explicitly out of scope for this ICS.

This ICS document describes the workflow *Business Objects* required for submitting jobs from a *Print Buyer* to a *Print Provider* and mechanisms for the *Print Provider* to either accept or refuse the job and to provide the *Print Buyer* with job status information. Jobs can either be completely specified in detail for blind exchange or reference pre-negotiated product configurations by identifier that have been synchronized offline.

## 1.1 Specification of cardinality

The following table illustrates the notation of manager and worker requirements in ICS tables.

If an attribute, attribute value or element is not provided explicitly or implicitly by a table row of <all other values>, it is assumed to be out of scope. Out of scope values MAY be written and MAY be processed, but a conforming processor NEED NOT support them. The implied cardinality of out of scope values is therefore w? r?.

**Table 1.1: Specification of cardinality**

NOTATION	NAME	DESCRIPTION
w	Write Required	The element or attribute SHALL be written by the <i>Manager</i> or <i>Worker</i> .
w?	Write Optional	The element or attribute MAY be written by the <i>Manager</i> or <i>Worker</i> .
w←	Write Conditional	The element or attribute SHALL be written by the <i>Manager</i> or <i>Worker</i> depending on conditions. The details of the conditions will be specified in the description.
w!	Write Forbidden	The element or attribute SHALL NOT be written by the <i>Manager</i> or <i>Worker</i> .
r	Read Required	The element or attribute SHALL be read by the <i>Manager</i> or <i>Worker</i> .
r?	Read Optional	The element or attribute MAY be read by the <i>Manager</i> or <i>Worker</i> .
r←	Read Conditional	The element or attribute SHALL be read by the <i>Manager</i> or <i>Worker</i> depending on conditions. The details of the conditions will be specified in the description.

## 1.2 General Architecture

All transactions in an automated print procurement environment SHALL conform to **PrintTalk 2.0**. Each **PrintTalk** document SHALL contain a *Business Object*. Job descriptions shall be specified as **XJDF**.

### 1.2.1 Transport Protocol

*Manager* and *Worker* shall implement the bidirectional transport protocol according to ▶ [PrintTalk]. Implementation of the unidirectional transport protocol is outside of the scope of this ICS.

### 1.2.2 XML and ZIP Packaging

Conforming data SHALL be packaged either as a ZIP stream or as raw XML. Raw XML SHALL be accepted by conforming readers. ZIP packaging SHOULD be accepted by conforming readers. Conforming writers SHALL be capable of writing raw XML and SHOULD be capable of writing ZIP streams.

For details of ZIP and raw XML packaging, see ▶ [PrintTalk].

### 1.2.3 Availability of Referenced Assets

Referenced assets such as PDF files SHALL be available for download until a **Confirmation** or a **Refusal Business Object** has been received by the *Manager* or the deadline that was defined in **PurchaseOrder/@Expires** has been reached.

## 1.3 Security

It is strongly encouraged to use encryption technology for security and authentication. For details see ▶ [PrintTalk].

## 1.4 Glossary

This section defines the terms and definitions that are required for automated print procurement. For general **XJDF** and **PrintTalk** terms please see ▶ [XJDF 2.0] and ▶ [PrintTalk] respectively.

Table 1.2: Glossary

TERM	DEFINITION
<b>Blind Exchange</b>	Defines a complete <i>Business Transaction</i> where no <i>Out of Band</i> synchronization of identifiers is required.
<b>Business Object</b>	The portion of a <b>PrintTalk</b> document that describes a <i>Business Transaction</i> . For example a <b>PurchaseOrder Business Object</b> describes a purchase order <i>Business Transaction</i> .
<b>Business Transaction</b>	When a <i>Print Buyer</i> sends a <b>PrintTalk</b> document to a <i>Print Provider</i> , or a <i>Print Provider</i> sends a <b>PrintTalk</b> document to a <i>Print Buyer</i> , the <i>Business Object</i> within the <b>PrintTalk</b> document describes a business transaction between the <i>Print Buyer</i> and <i>Print Provider</i> .
<b>Manager</b>	The software that implements the manager interface. The <i>Manager</i> software is used by the <i>Print Buyer</i> .
<b>MIS</b>	Management Information System or production workflow system.
<b>Out Of Band</b>	The exchange of metadata that is not conveyed using <b>XJDF</b> or <b>PrintTalk</b> .
<b>Print Buyer</b>	The customer that is buying a <i>Print Product</i> .
<b>Print Product</b>	The printed matter produced by the <i>Print Provider</i> according to the specifications from the <i>Print Buyer</i> .
<b>Print Provider</b>	The producer of the <i>Print Product</i> .
<b>Worker</b>	The software that implements the worker interface. The <i>Worker</i> software is used by the <i>Print Provider</i> .

## 2 PrintTalk Requirements

This chapter describes the requirements of the **PrintTalk** *Business Objects* to support automated print procurement.

### 2.1 PrintTalk

The **PrintTalk** element shall be the root element of each *Business Transaction*.

Table 2.1: *PrintTalk* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>ICSVersions</i>	w r	r w	See ▶ [PrintTalk].
<b>Cus-APP_L1-2.0</b>	w r	r w	@ <i>ICSVersions</i> ="Cus-APP_L1-2.0" SHALL be provided in a <b>PrintTalk</b> document that conforms to this ICS.
<all other values>	w?	r?	Other values MAY be specified to indicate that the <b>PrintTalk</b> document conforms to other ICS's.
<i>timestamp</i>	w r?	r? w	The date and time the message was sent, in ▶ [ISO8601] format. @ <i>timestamp</i> SHOULD be provided with millisecond precision. @ <i>timestamp</i> SHALL NOT change for retry attempts.
<b>Header</b>	w r	r w	<b>Header</b> SHALL provide credentials of the parties that are involved.
<b>Request</b>	w r	r w	The <b>Request</b> element contains the body of the transaction as further specified in this document.

### 2.2 Header

The **Header** element is a container element for information about the parties that are involved in the transaction.

Table 2.2: *Header* element

NAME	MANAGER	WORKER	DESCRIPTION
<b>From</b>	w r	r w	<b>From</b> SHALL identify the original sender of the <b>PrintTalk</b> transaction. <b>Note:</b> This <b>ICS</b> assumes point to point interactions without 3rd party intermediaries.
<b>Sender</b>	w!		<b>Sender</b> SHALL NOT be specified.
<b>To</b>	w r	r w	<b>To</b> SHALL identify the recipient of the <b>PrintTalk</b> transaction.

### 2.3 From

This ICS assumes point to point transactions. Therefore **From** SHALL identify the single sender of the **PrintTalk** transaction.

Table 2.3: From element

NAME	MANAGER	WORKER	DESCRIPTION
<b>Credential</b> [@domain="CustomerID"]	w	r	The customers identification string in the scope of the <i>Print Provider</i> .
<b>Credential</b> [@domain="ResponseURL"]	w←	r w!	If present, <b>Credential</b> [@domain="ResponseURL"] SHALL specify the target URL for all asynchronous <i>Business Transactions</i> from <i>Print Provider</i> to <i>Print Buyer</i> .
<b>Credential</b> [@domain="URL"]	w r	r w	The URL of the sender of the <i>Business Transaction</i> . The <i>Worker</i> SHALL provide a copy of the URL that received the initial request.

## 2.4 To

Definition of the **To** element that SHALL be written.

Table 2.4: To element

NAME	MANAGER	WORKER	DESCRIPTION
<b>Credential</b> [@domain="URL"]	r w	w r	The URL of the receiving <i>Manager</i> or <i>Worker</i> .

## 2.5 Credential

Definition of the **Credential** that contains all credential details.

Table 2.5: Credential element

NAME	MANAGER	WORKER	DESCRIPTION
<i>domain</i>	r w	w r	See ▶ [PrintTalk].
<i>Identity</i>	r w	w r	See ▶ [PrintTalk].

## 2.6 Request

The **Request** element is a container element for the actual *Business Object*.

Table 2.6: Request element

NAME	MANAGER	WORKER	DESCRIPTION
<i>BusinessID</i>	w r	r w	The unique identifier for this <i>Business Object</i> .
<i>BusinessRefID</i>	w← r	r w←	<b>@BusinessRefID</b> SHALL NOT be present in a <b>PurchaseOrder</b> and SHALL be present in all other <i>Business Objects</i> . In the context of this <b>ICS</b> , the value of <b>@BusinessRefID</b> SHALL be the value of <b>Request/@BusinessID</b> of the initiating <b>PurchaseOrder</b> .

Table 2.6: Request element

NAME	MANAGER	WORKER	DESCRIPTION
<b>Confirmation</b>	r	w←	<b>Confirmation</b> confirms the referred <i>Business Object</i> . In the context of the <b>Automated Print Procurement ICS</b> , the initiating <i>Business Object</i> <b>PurchaseOrder</b> SHALL be accepted with all its details specified. <b>Confirmation</b> SHALL NOT be sent prior to confirming that the job can be produced as requested and using the referenced print data. <b>Note:</b> This implies an implementation dependent preflight check.
<b>OrderStatusResponse</b>	r?	w?	An automatically generated <b>OrderStatusResponse</b> <i>Business Object</i> that describes the status of an order whose associated <b>PurchaseOrder</b> is referenced by the @ <i>BusinessRefID</i> . <b>OrderStatusResponse</b> SHOULD be provided whenever a print job passes an <i>xjdf:Milestone</i> .
<b>PurchaseOrder</b>	w←	r	The <b>PurchaseOrder</b> <i>Business Object</i> that contains all details about a single purchase order.
<b>Refusal</b>	r	w←	A <b>Refusal</b> refuses a <i>Business Object</i> . In the context of the <b>Automated Print Procurement ICS</b> the <b>Refusal</b> <i>Business Object</i> refuses the referenced <b>PurchaseOrder</b> <i>Business Object</i> . This means that the automated job submission is NOT accepted.
<b>&lt;All other Business Objects&gt;</b>	w? r?	r? w?	Additional <i>Business Objects</i> may be provided but are out of scope for this ICS.



# 3 Business Objects

*Business Objects* are handling the business transactions between the two parties, the *Print Buyer* and the *Print Provider*.

## 3.1 PurchaseOrder

A **PurchaseOrder** *Business Object* places a new order at the *Print Provider*.

Flow: *Print Buyer to Print Provider*

Table 3.1: PurchaseOrder

NAME	MANAGER	WORKER	DESCRIPTION
<i>Expires</i>	w	r	The date and time when this <b>PurchaseOrder</b> is no longer binding for the <i>Print Buyer</i> . The value of <i>@Expires</i> SHALL be later than the value of <i>PrintTalk/@timestamp</i> and SHOULD be at least one hour after the time that this <b>PurchaseOrder</b> was sent. <b>Note:</b> An hour was chosen to allow sufficient time for automated preflighting of larger files. See ▶ [PrintTalk].
<b>MasterContract</b>	w?	r	If a master contract has been negotiated, <b>MasterContract</b> SHOULD be provided by the <i>Print Buyer</i> .
<b>Pricing</b>	w?	r	If specified, <b>Pricing</b> SHALL specify the price of all final products and services. <b>Pricing</b> MAY be omitted in workflows with pre-negotiated contract prices.
<b>StatusRequest</b> *	w?	r	See ▶ [PrintTalk].
<i>xjdf:XJDF</i> +	w	r	Description of each print job to be purchased. Each <b>XJDF</b> SHALL represent an individual product. <b>Note:</b> Multiple <b>XJDF</b> documents typically describe a shopping cart in a B2C environment or a batch of jobs in a B2B environment.

### 3.1.1 MasterContract

Table 3.2: MasterContract element

NAME	MANAGER	WORKER	DESCRIPTION
<i>ContractID</i>	w	r	See ▶ [PrintTalk]. <b>Note:</b> Master contract identifiers are exchanged <i>Out of Band</i> .

### 3.1.2 Pricing

The **Pricing** element SHALL contain a list of prices for all items.

Table 3.3: Pricing element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Currency</i>	w	r	See ▶ [PrintTalk].
<b>Price</b> +	w	r	See ▶ [PrintTalk].
<i>xjdf:Contact</i>	w?	r	See ▶ [PrintTalk].

### 3.1.3 Price

The **Price** element specifies the price of a single item.

Table 3.4: Price element

NAME	MANAGER	WORKER	DESCRIPTION
<i>DescriptiveName</i>	w	r	The description of the price.
<i>LineID</i>	w	r	See ▶ [PrintTalk] for details of linking @ <i>LineID</i> to products in <b>XJDF</b> .
<i>LineIDRefs</i>	w←	r	See ▶ [PrintTalk] for details of calculating sums of prices.
<i>Price</i>	w	r	See ▶ [PrintTalk].
<i>PriceType</i>	w	r	See ▶ [PrintTalk].
<b>Product</b>	w←	r	
<b>Total</b>	w←	r	
<all other values>	w?	r?	Other @ <i>PriceType</i> values NEED NOT be included in the <b>Price</b> element but SHALL be included in calculations of sub-totals.
<i>TaxType</i>	w	r	This ICS has no business requirements regarding the inclusion or exclusion of taxes in <b>Pricing</b> . See ▶ [PrintTalk].
<b>Gross</b>	w←	r	
<b>Net</b>	w←	r	
<b>Tax</b>	w←	r	

### 3.1.4 StatusRequest

Table 3.5: StatusRequest element

NAME	MANAGER	WORKER	DESCRIPTION
<i>JobIDRef</i>	w!		Only global status subscriptions are supported by this ICS.
<i>MilestoneAmount</i>	w←	r	Exactly one of @ <i>MilestoneAmount</i> or @ <i>ResourceAudit</i> SHALL be specified. See ▶ [PrintTalk].
<b>Brief</b>	w	r	This ICS only supports subscriptions for individual milestones. See ▶ [PrintTalk].
<i>ResourceAudit</i>	w←	r	Exactly one of @ <i>MilestoneAmount</i> or @ <i>ResourceAudit</i> SHALL be specified. See ▶ [PrintTalk].
<b>DeliveryParams</b>	w←	r	<b>DeliveryParams</b> SHALL be specified for delivery tracking information.
<all other values>	w?	r?	Additional values MAY be specified but are out of the scope of this ICS.

## 3.2 Confirmation

The **Confirmation** Business Object confirms the initiating **PurchaseOrder**, which is referenced by @*BusinessRefID*. The **Confirmation** Business Object SHOULD be an empty element.

A **Confirmation** Business Object SHALL NOT be sent prior to confirming that the job can be produced as requested and using the referenced print data.



Flow: *Print Provider to Print Buyer*

Table 3.6: Confirmation

NAME	MANAGER	WORKER	DESCRIPTION
<empty>			

### 3.3 Refusal

The **Refusal** Business Object refuses the initiating **PurchaseOrder**, which is referenced by @**BusinessRefID**.

Flow: *Print Provider to Print Buyer*

Table 3.7: Refusal

NAME	MANAGER	WORKER	DESCRIPTION
<i>Reason</i>	r?	w	@ <i>Reason</i> SHALL be specified. See ▶ [PrintTalk] for a list of valid values.
<i>ReasonDetails</i>	r?	w?	@ <i>ReasonDetails</i> SHOULD be supplied and SHOULD be selected from the predefined list of refusal codes defined in ▶ [PrintTalk].

### 3.4 OrderStatusResponse

**OrderStatusResponse** Business Objects SHALL be sent to the *Print Buyer* whenever a condition as specified in a **PurchaseOrder/StatusRequest** is triggered.

Flow: *Print Provider to Print Buyer*

Table 3.8: OrderStatusResponse

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:AuditPool</i>	r?	w	Milestones and delivery details are defined in this ICS. See ▶ [XJDF 2.0].

#### 3.4.1 xjdf:AuditNotification

Table 3.9: xjdf:AuditNotification element

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:Header</i>	r	w	See ▶ [XJDF 2.0].
<i>xjdf:Notification</i>	r?	w	<i>xjdf:Notification</i> SHALL contain an <i>xjdf:Milestone</i> that describes the current status of the job.

#### 3.4.2 xjdf:AuditPool

**xjdf:AuditPool** is an **XJDF** element used by some **PrintTalk** Business Objects to allow for feedback from the *Print Provider*. For details see ▶ [XJDF 2.0] and ▶ [PrintTalk].

Table 3.10: xjdf:AuditPool element

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:AuditNotification</i>	r	w←	<i>xjdf:AuditNotification</i> SHOULD be used to transfer milestones. All other usages of <i>xjdf:AuditNotification</i> are out of scope for this ICS.
<i>xjdf:AuditResource</i>	r	w←	<i>xjdf:AuditResource</i> SHOULD be used to transfer tracking IDs. All other usages of <i>xjdf:AuditResource</i> are out of scope for this ICS.

### 3.4.3 xjdf:AuditResource

Table 3.11: xjdf:AuditResource element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">xjdf:Header</a>	r	w	See ▶ [XJDF 2.0].
<a href="#">xjdf:ResourceInfo</a>	r	w	See ▶ [XJDF 2.0].

### 3.4.4 xjdf:Header

Table 3.12: xjdf:Header element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">DeviceID</a>	r	w	See ▶ [XJDF 2.0].
<a href="#">Time</a>	r	w	See ▶ [XJDF 2.0].

### 3.4.5 xjdf:Milestone

An [xjdf:Milestone](#) describes the overall status of a print job. The *Print Buyer* requirements for processing milestones only define the requirement to appropriately process a received milestone. This ICS does not define any requirements regarding the forwarding milestones, e.g. to an end customer.

Table 3.13: xjdf:Milestone element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">MilestoneType</a>	r	w	Type of Milestone.
<a href="#">JobCompletedSuccessfully</a>	r	w←	<a href="#">JobCompletedSuccessfully</a> SHALL be sent by the <i>Print Provider</i> when the job has been completely produced. See ▶ [XJDF 2.0].
<a href="#">PostPressCompleted</a>	r	w?	<a href="#">PostPressCompleted</a> SHOULD be sent by the <i>Print Provider</i> when finishing of the job has been completed. See ▶ [XJDF 2.0].
<a href="#">PrePressCompleted</a>	r	w?	<a href="#">PrePressCompleted</a> SHOULD be sent by the <i>Print Provider</i> when prepress for the job has been completed. See ▶ [XJDF 2.0].
<a href="#">PressCompleted</a>	r	w?	<a href="#">PressCompleted</a> SHOULD be sent by the <i>Print Provider</i> when the job has been printed. See ▶ [XJDF 2.0].
<all other values>	r?	w?	Additional milestones MAY be sent but are out of scope of this ICS.

### 3.4.6 xjdf:Notification

[xjdf:Notification](#) is a container for [xjdf:Milestone](#) elements. All other usages are out of scope for this ICS.

Table 3.14: xjdf:Notification element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">Class</a>	r?	w	
<a href="#">Event</a>	r?	w	
<a href="#">JobID</a>	r?	w	Identifier of the job that this <a href="#">xjdf:Notification</a> applies to in the context of the <i>Print Buyer</i> . This SHALL be a copy of <a href="#">PurchaseOrder/xjdf:XJDF/@JobID</a> .

Table 3.14: *xjdf:Notification* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:Milestone</i>	r?	w	The milestone definition.

3.4.7 *xjdf:ResourceInfo*Table 3.15: *xjdf:ResourceInfo* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:ResourceSet</i> [@Name= "DeliveryParams"]	r?	w←	Container for an <i>xjdf:DeliveryParams</i> resource that in turn contains delivery details such as tracking IDs etc. Delivery details SHOULD be provided if the delivery is being done by a shipping provider.
<i>xjdf:ResourceSet</i> [@Name= <all other values>]	r?	w?	Additional resources MAY be specified but are out of scope for this ICS.



# 4 XJDF Product Description

Product description specifies a process independent product description of the end product.

If a *Print Provider* is not capable of producing or procuring the end product as described, it SHALL NOT accept the order.

## 4.1 xjdf:XJDF

Table 4.1: xjdf:XJDF element

NAME	MANAGER	WORKER	DESCRIPTION
<i>JobID</i>	w	r	Job identification in the context of the <i>Print Buyer</i> . <b>Note:</b> <i>@JobID</i> will typically not to be used as the internal job identifier by the <i>Print Provider</i> .
<i>Types</i>	w	r	See ▶ [XJDF 2.0].
<b>Product</b>	w	r	The <b>XJDF</b> SHALL contain a product description.
<all other values>	w?	r?	Additional processes MAY be specified in addition to "Product" but are out of scope for this ICS. <b>Note:</b> If additional values are specified then "Product" SHOULD be the first value in the list.
<i>xjdf:ProductList</i>	w	r	<i>xjdf:ProductList</i> SHALL specify a list of products and product parts from the <i>Print Buyer's</i> point of view.
<i>xjdf:ResourceSet</i> [@Name="Contact"]	w	r	Container for an <i>xjdf:Contact</i> resource that in turn contains details such as delivery address, sender's address or customer details.
<i>xjdf:ResourceSet</i> [@Name="DeliveryParams"]	w←	r	Container for <i>xjdf:DeliveryParams</i> resources that in turn contain delivery details including split deliveries and shipping details.
<i>xjdf:ResourceSet</i> [@Name="NodeInfo"]	w	r	Container for an <i>xjdf:NodeInfo</i> resource that in turn contains scheduling details.
<i>xjdf:ResourceSet</i> [@Name="RunList"]	w	r	Container for an <i>xjdf:RunList</i> resource that in turn contains details about the customer's artwork.
<i>xjdf:ResourceSet</i> [@Name="<all other values>"]	w?	r?	Additional details may be specified but are out of scope for this ICS.

## 4.2 xjdf:ProductList

The *xjdf:ProductList* element is a container for one or multiple *xjdf:Product* elements. Each *xjdf:Product* element represents either a product (self-containing product) or a product part (multi-part product).

Examples for self-containing products are simple flyers, folded leaflets or even single component brochures. A sample for a multi-part product is a brochure with an extra cover (i. e. stronger paper or different color or finishing configuration).

Table 4.2: *xjdf:ProductList* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:Product</i> +	w	r	<i>xjdf:ProductList</i> SHALL contain exactly one root product ( <i>xjdf:Product</i> / <i>@IsRoot="true"</i> ). Partial products ( <i>xjdf:Product</i> / <i>@IsRoot="false"</i> ) such as cover and body MAY be provided. <b>Note:</b> This ICS describes individual end products. Multiple root products, which are only required for gang jobs in production, are out of the scope of this ICS.

### 4.3 *xjdf:Product*

*xjdf:Product* specifies an individual product or product part.

**Note:** If *@ExternalID* is provided, *Out Of Band* product synchronization is required, where a specific product configuration has been bound to an unique identifier thus preventing a *Blind Exchange*.

Table 4.3: *xjdf:Product* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Amount</i>	w←	r	If <i>@IsRoot="true"</i> , this attribute SHALL define the total number of final products needed. When specifying a product part with <i>@IsRoot="false"</i> , the attribute <i>@Amount</i> SHALL define how many items are required in order to produce a single final product. If not specified, the product part is assumed to be required once per final product.
<i>ExternalID</i>	w?	r	If present, <i>@ExternalID</i> SHALL identify a product type. <b>Note:</b> The presence of this attribute prohibits <i>Blind Exchange</i> . See ▶ [XJDF 2.0].
<i>IsRoot</i>	w	r	If <i>@IsRoot="true"</i> , this <i>xjdf:Product</i> element describes either a self-contained product or describes the root product part of a multi-part product description. If <i>@IsRoot="false"</i> , this <i>xjdf:Product</i> element is a product part of another <i>xjdf:Product</i> , such as a cover or body of a brochure.
<i>xjdf:GeneralID</i> [ <i>@IDUsage="LineID"</i> ]	w←	r	<i>xjdf:GeneralID</i> / <i>@IDValue</i> SHALL reference the <i>Pricing/Price</i> / <i>@LineID</i> of the pricing element that describes the price of this <i>Print Product</i> . This element SHALL be written in case <i>@IsRoot="true"</i> and <i>Pricing</i> is provided.
<i>xjdf:Intent</i> [ <i>@Name="BindingIntent"</i> ]	w?	r	<i>xjdf:BindingIntent</i> specifies the binding of a product. In case of a multi-part product description, this intent SHALL reference the product parts ( <i>@IsRoot="false"</i> ).
<i>xjdf:Intent</i> [ <i>@Name="ColorIntent"</i> ]	w←	r	<i>xjdf:ColorIntent</i> specifies the color and varnishing of the product. <i>xjdf:Intent</i> [ <i>@Name="ColorIntent"</i> ] SHALL be specified if <i>xjdf:Product</i> / <i>@ExternalID</i> is not present.
<i>xjdf:Intent</i> [ <i>@Name="FoldingIntent"</i> ]	w?	r	<i>xjdf:FoldingIntent</i> specifies the straight line folding, creasing and perforating of a product.
<i>xjdf:Intent</i> [ <i>@Name="LayoutIntent"</i> ]	w←	r	<i>xjdf:LayoutIntent</i> specifies the size and orientation of the finished pages. <i>xjdf:Intent</i> [ <i>@Name="LayoutIntent"</i> ] SHALL be specified if <i>xjdf:Product</i> / <i>@ExternalID</i> is not present.
<i>xjdf:Intent</i> [ <i>@Name="MediaIntent"</i> ]	w←	r	<i>xjdf:MediaIntent</i> describes the printing substrate to be used for the product. <i>xjdf:Intent</i> [ <i>@Name="MediaIntent"</i> ] SHALL be specified if <i>xjdf:Product</i> / <i>@ExternalID</i> is not present.

Table 4.3: xjdf:Product element

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:Intent</i> [@Name=<all other values>]	w?	r	All further intents are optional for the <i>Manager</i> . The <i>Worker</i> SHALL at least detect that a specific intent is not supported. <b>Note:</b> Detecting unsupported intents will typically cause an order refusal.

#### 4.3.1 xjdf:GeneralID

In the context of the **Automated Print Procurement ICS** this element is used to reference the pricing in a product definition.

Table 4.4: xjdf:GeneralID element

NAME	MANAGER	WORKER	DESCRIPTION
<i>IDUsage</i>	w	r	See ▶ [XJDF 2.0].
<i>LineID</i>	w←	r	The unique identifier for the line item that a <i>Price</i> represents.
<all other values>	w?	r?	Other values MAY be used but are out of scope of this ISC.
<i>IDValue</i>	w	r	See ▶ [XJDF 2.0].





# 5 XJDF Intent Descriptions

Specific details of products or product parts that are specified in *xjdf:Intent* elements.

## 5.1 xjdf:BindingIntent

BindingIntent specifies the binding intent for a product.

### 5.1.1 xjdf:Intent

Table 5.1: xjdf:Intent for xjdf:BindingIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w	r	See ▶ [XJDF 2.0].
<b>BindingIntent</b>	w	r	Mandatory for <i>xjdf:BindingIntent</i> .
<i>xjdf:BindingIntent</i>	w	r	The specific binding intent.

### 5.1.2 xjdf:BindingIntent

Table 5.2: xjdf:BindingIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<i>BindingOrder</i>	w	r	Specifies whether the product parts are to be collected or gathered if multiple product parts are bound.
<i>BindingSide</i>	w	r	Defines which side of the product SHALL be bound.
<i>BindingType</i>	w	r	Specifies the desired binding for the job.
<i>ChildRefs</i>	w←	r	See ▶ [XJDF 2.0].

## 5.2 xjdf:ColorIntent

*xjdf:ColorIntent* specifies the color and varnishing intent for a product. Each surface SHALL be specified individually in an *xjdf:SurfaceColor* element. Single sided printing SHALL be specified by providing exactly one *xjdf:SurfaceColor* element. In addition to the printed images, *xjdf:ColorIntent* also provides details of protective or gloss enhancing coatings.

**Note:** In case a more precise color definition is needed, please check the **Quality Control ICS**.

### 5.2.1 xjdf:Intent

Table 5.3: xjdf:Intent for xjdf:ColorIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w	r	See ▶ [XJDF 2.0].
<b>ColorIntent</b>	w	r	Mandatory for <i>xjdf:ColorIntent</i> .
<i>xjdf:ColorIntent</i>	w	r	The specific color intent.

## 5.2.2 xjdf:ColorIntent

Table 5.4: xjdf:ColorIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">xjdf:SurfaceColor</a> +	w	r	See ▶ [XJDF 2.0]. <b>Note:</b> See also <a href="#">xjdf:LayoutIntent/@Sides</a> for rules on imposing pages on front and back surfaces.

## 5.2.2.1 xjdf:SurfaceColor

This element specifies the color configuration of the desired product's surface.

Table 5.5: xjdf:SurfaceColor element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">Coatings</a>	w?	r	See ▶ [XJDF 2.0].
<a href="#">ColorsUsed</a>	w?	r	See ▶ [XJDF 2.0].
<a href="#">PrintStandard</a>	w?	r	See ▶ [XJDF 2.0].
<a href="#">Surface</a>	w	r	See ▶ [XJDF 2.0].

## 5.3 xjdf:FoldingIntent

[xjdf:FoldingIntent](#) specifies the straight line folding of a product.

**Note:** [xjdf:FoldingIntent](#) specifies the folding intent for a product excluding folds that are implied by binding. See [xjdf:BindingIntent](#) for additional details.

## 5.3.1 xjdf:Intent

Table 5.6: xjdf:Intent for xjdf:FoldingIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">Name</a>	w	r	See ▶ [XJDF 2.0].
<a href="#">FoldingIntent</a>	w	r	Mandatory for <a href="#">xjdf:FoldingIntent</a> .
<a href="#">xjdf:FoldingIntent</a>	w	r	The specific folding intent.

## 5.3.2 xjdf:FoldingIntent

Table 5.7: xjdf:FoldingIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">FoldCatalog</a>	w	r	Describes the folding scheme of the final product.
<a href="#">Orientation</a>	w	r	See ▶ [XJDF 2.0].

## 5.4 xjdf:LayoutIntent

[xjdf:LayoutIntent](#) specifies the size of the final product as well as how the artwork is delivered. The positioning of the artwork pages on the final product is also defined in [xjdf:LayoutIntent](#).

## 5.4.1 xjdf:Intent

Table 5.8: xjdf:Intent for xjdf:LayoutIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">Name</a>	w	r	See ▶ [XJDF 2.0].

Table 5.8: *xjdf:Intent* for *xjdf:LayoutIntent* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>LayoutIntent</i>	w	r	Mandatory for <i>xjdf:LayoutIntent</i> .
<i>xjdf:LayoutIntent</i>	w	r	The specific layout intent.

## 5.4.2 *xjdf:LayoutIntent*

Table 5.9: *xjdf:LayoutIntent* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Dimensions</i>	w←	r	<i>@Dimensions</i> SHALL be specified for products with a varying page size such as a wrap-around cover with a spine. Exactly one of <i>@Dimensions</i> and <i>@FinishedDimensions</i> SHALL be specified. <b>Note:</b> This is commonly known as the open product size. See ▶ [XJDF 2.0].
<i>FinishedDimensions</i>	w←	r	<i>@FinishedDimensions</i> SHALL be specified for products where all pages have the same size. Exactly one of <i>@Dimensions</i> and <i>@FinishedDimensions</i> SHALL be specified. <b>Note:</b> This is commonly known as the closed product size. See ▶ [XJDF 2.0].
<i>Pages</i>	w	r	See ▶ [XJDF 2.0].
<i>Sides</i>	w	r	<i>@Sides</i> specifies which sides of the product SHALL be printed.
<i>SpreadType</i>	w	r	See ▶ [XJDF 2.0].

## 5.5 *xjdf:MediaIntent*

*xjdf:MediaIntent* describes the substrate that SHALL be used for the product or product part.

**Note:** If *@MediaQuality* is provided, *Out Of Band* media synchronization is required, where a specific media has been bound to a unique identifier thus preventing a *Blind Exchange*.

### 5.5.1 *xjdf:Intent*

Table 5.10: *xjdf:Intent* for *xjdf:MediaIntent* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w	r	See ▶ [XJDF 2.0].
<i>MediaIntent</i>	w	r	Mandatory for <i>xjdf:MediaIntent</i> .
<i>xjdf:MediaIntent</i>	w	r	The specific media intent.

### 5.5.2 *xjdf:MediaIntent*

Table 5.11: *xjdf:MediaIntent* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Brand</i>	w?	r	Brand or manufacturer of the media.
<i>Coating</i>	w←	r	<i>@Coating</i> SHALL be specified if <i>@MediaQuality</i> is not present. See ▶ [XJDF 2.0].
<i>ISOPaperSubstrate</i>	w?	r	<i>@ISOPaperSubstrate</i> SHALL specify the type of paper material defined in accordance with the print substrate, see ▶ [ISO12647-2:2013].

Table 5.11: *xjdf:MediaIntent* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>MediaQuality</i>	w←	r	@ <i>MediaQuality</i> SHALL be specified if either of @ <i>Coating</i> or @ <i>Weight</i> is NOT specified. If @ <i>MediaQuality</i> is present, additional details of the media SHOULD NOT be present. See ▶ [XJDF 2.0].
<i>MediaType</i>	w	r	Type of the printed material.
Paper	w←	r	In most cases the value of @ <i>MediaType</i> will be "Paper".
<all other values>	w?	r	Additional media types MAY be specified but are out of scope for this ICS.
<i>Weight</i>	w←	r	@ <i>Weight</i> SHALL be specified if @ <i>MediaQuality</i> is not present. See ▶ [XJDF 2.0].
<i>xjdf:Certification</i>	w?	r	<i>xjdf:Certification</i> SHALL specify a minimum requested paper certification level. Not more than one <i>xjdf:Certification</i> SHALL be specified.

5.5.2.1 *xjdf:Certification*

Certification specifies the certification properties of the paper.

Table 5.12: *xjdf:Certification* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Organization</i>	w	r	Identifier of the issuing organization.

## 6 XJDF Resources

The term resources refers to all the production related metadata of a job that is needed to fulfill that job.

### 6.1 xjdf:Contact

Contacts are used to define various types of contact details.

The **xjdf:Contact** resource SHALL be partitioned according to the partition key **@ContactType**.

#### 6.1.1 xjdf:ResourceSet

Table 6.1: xjdf:Contact xjdf:ResourceSet element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w	r	See ▶ [XJDF 2.0].
<b>Contact</b>	w	r	The value of <b>@Name</b> shall be "Contact".
<i>Usage</i>	w	r	See ▶ [XJDF 2.0].
<b>Input</b>	w	r	The value of <b>@Usage</b> SHALL be "Input".
<b>xjdf:Resource</b> +	w	r	One <b>xjdf:Resource</b> element SHALL be specified for each contact.

#### 6.1.2 xjdf:Resource

Table 6.2: xjdf:Contact xjdf:Resource element

NAME	MANAGER	WORKER	DESCRIPTION
<b>xjdf:Part</b> +	w	r	The contact type SHALL be specified in one or more <b>xjdf:Part</b> elements. An individual <b>xjdf:Contact</b> that fulfills multiple roles SHOULD be specified as a single resource with multiple <b>xjdf:Part</b> elements.
<b>xjdf:Contact</b>	w	r	The specific <b>xjdf:Contact</b> element.

#### 6.1.3 xjdf:Part

Table 6.3: xjdf:Contact xjdf:Part element

NAME	MANAGER	WORKER	DESCRIPTION
<i>ContactType</i>	w	r	<b>@ContactType</b> shall be specified for <b>xjdf:Contact</b> .
<b>Delivery</b>	w←	r	One delivery <b>xjdf:Contact</b> SHALL be specified for each delivery address.
<b>SenderAlias</b>	w?	r	Definition of the <i>Print Buyers's</i> customer facing address.
<all other values>	w?	r?	Additional values MAY be specified but are out of scope of this ICS.
<i>DropID</i>	w←	r	If more than one delivery address or delivery date is specified, then <b>@DropID</b> SHALL also be specified.

## 6.1.4 xjdf:Contact

Table 6.4: xjdf:Contact element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">xjdf:Address</a>	w	r	Element describing the address.
<a href="#">xjdf:Company</a>	w←	r	Company that this <a href="#">xjdf:Contact</a> is associated with. At least one of <a href="#">xjdf:Company</a> or <a href="#">xjdf:Person</a> SHALL be specified.
<a href="#">xjdf:Person</a>	w←	r	Name of the contact person. At least one of <a href="#">xjdf:Company</a> or <a href="#">xjdf:Person</a> SHALL be specified.

## 6.1.4.1 xjdf:Address

Definition of an address.

**Note:** The fields that are required for a given address depend on the address type and nationality.

Table 6.5: xjdf:Address element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">City</a>	w←	r←	City or locality of the address.
<a href="#">CivicNumber</a>	w←	r←	<a href="#">@CivicNumber</a> SHALL specify the street number of the street address. If <a href="#">@CivicNumber</a> is specified, the number SHALL NOT be included in <a href="#">@Street</a> .
<a href="#">Country</a>	w←	r←	Country of the address.
<a href="#">CountryCode</a>	w←	r←	Country code of the address.
<a href="#">ExtendedAddress</a>	w←	r←	Additional details of the address.
<a href="#">PostalCode</a>	w←	r←	Zip code or postal code of the address.
<a href="#">PostBox</a>	w←	r←	Post office address.
<a href="#">Region</a>	w←	r←	State or province of the address.
<a href="#">Street</a>	w←	r←	Street of the address. <a href="#">@Street</a> SHALL include the name of the street and SHOULD include the street number, unless the street number is specified separately in <a href="#">@CivicNumber</a> .

## 6.1.4.2 xjdf:Company

Table 6.6: xjdf:Company element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">OrganizationName</a>	w	r	Name of the organization or company.

## 6.1.4.3 xjdf:Person

Table 6.7: xjdf:Person element

NAME	MANAGER	WORKER	DESCRIPTION
<a href="#">AdditionalNames</a>	w?	r	Additional names of the contact person.
<a href="#">FamilyName</a>	w	r	The family name of the contact person.
<a href="#">FirstName</a>	w←	r	The first name of the contact person.
<a href="#">NamePrefix</a>	w?	r	Prefix of the contact person, e.g. an academic title.

## 6.2 xjdf:DeliveryParams

*xjdf:DeliveryParams* are used to define details of shipping. If *xjdf:DeliveryParams* is specified in the context of a *PurchaseOrder*, it defines the *Print Buyer's* requested delivery details. If *xjdf:DeliveryParams* is specified in the context of an *OrderStatusResponse*, it defines the actual delivery details that the *Print Provider* has arranged.

### 6.2.1 xjdf:ResourceSet

Table 6.8: *xjdf:DeliveryParams xjdf:ResourceSet* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w r	r w	See ▶ [XJDF 2.0].
<i>DeliveryParams</i>	w r	r w	The value of <i>@Name</i> shall be "DeliveryParams".
<i>Usage</i>	w r	r w	See ▶ [XJDF 2.0].
<i>Input</i>	w r	r w	The value of <i>@Usage</i> SHALL be "Input".
<i>xjdf:Resource</i> +	w r	r w	One <i>xjdf:Resource</i> element shall be specified for each delivery.

### 6.2.2 xjdf:Resource

Table 6.9: *xjdf:DeliveryParams xjdf:Resource* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Brand</i>	w? r?	r w←	<i>@Brand</i> SHALL specify the brand of the requested carrier that provides delivery services. The <i>Print Provider</i> SHOULD specify <i>@Brand</i> if <i>xjdf:DeliveryParams/@TrackingID</i> is present.
<i>xjdf:Part</i>	w← r	r w←	<i>xjdf:Part</i> SHALL be specified if multiple <i>xjdf:ResourceSet/xjdf:Resource</i> elements are specified.
<i>xjdf:DeliveryParams</i>	w r	r w	See ▶ [XJDF 2.0].

### 6.2.3 xjdf:Part

Table 6.10: *xjdf:DeliveryParams xjdf:Part* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>DropID</i>	w r	r w	See ▶ [XJDF 2.0].
<all other values>	w!	w!	Other partition keys SHALL NOT be specified.

### 6.2.4 xjdf:DeliveryParams

Table 6.11: *xjdf:DeliveryParams* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Method</i>	w? r?	r w?	Delivery method that is desired by the <i>Print Buyer</i> or has been selected by the <i>Print Producer</i> .

Table 6.11: *xjdf:DeliveryParams* element

NAME	MANAGER	WORKER	DESCRIPTION
StandardShipping	w< r?	r w<	Delivery according to the standard terms of service of the carrier, optimized by price.
ExpressShipping	w< r?	r w<	Guaranteed delivery, faster than "StandardShipping", optimized by time.
<all other values>	w? r?	r? w?	Other methods of delivery MAY be specified but are out of scope of this ICS.
Required	w<	r	The date and time by which the delivery is intended to be made (commonly known as the customer's delivery date). Exactly one of <i>xjdf:DeliveryParams/@Required</i> or <i>xjdf:NodeInfo/@End</i> SHALL be provided by the <i>Manager</i> .
TrackingID	w? r?	r? w<	The carrier's identifier for the delivery. The format of <i>@TrackingID</i> is determined by the carrier chosen to ship the product(s). The <i>Worker</i> SHALL provide <i>@TrackingID</i> as early as possible if available.

### 6.3 xjdf:NodeInfo

*xjdf:NodeInfo* elements are used to define details about planned scheduling.

#### 6.3.1 xjdf:ResourceSet

Table 6.12: *xjdf:NodeInfo xjdf:ResourceSet* element

NAME	MANAGER	WORKER	DESCRIPTION
Name	w	r	See ▶ [XJDF 2.0].
NodeInfo	w	r	The value of <i>@Name</i> shall be "NodeInfo".
Usage	w	r	See ▶ [XJDF 2.0].
Input	w	r	The value of <i>@Usage</i> SHALL be "Input".
<i>xjdf:Resource</i>	w	r	Scheduling details such as the planned production date of the product.

#### 6.3.2 xjdf:Resource

Table 6.13: *xjdf:NodeInfo xjdf:Resource* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:NodeInfo</i>	w	r	The specific <i>xjdf:NodeInfo</i> element.

#### 6.3.3 xjdf:NodeInfo

Table 6.14: *xjdf:NodeInfo* element

NAME	MANAGER	WORKER	DESCRIPTION
End	w<	r	Date and time at which the product is scheduled to be completely manufactured. Exactly one of <i>xjdf:DeliveryParams/@Required</i> or <i>xjdf:NodeInfo/@End</i> SHALL be provided by the <i>Manager</i> . <b>Note:</b> This date excludes shipping times.
FirstStart	w!		If initial start times are requested, use <i>@Start</i> .



Table 6.14: *xjdf:NodeInfo* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>LastEnd</i>	w!		If final end times are requested, use <i>@End</i> .
<i>NaturalLang</i>	w←	r	If systems are multilingual, <i>@NaturalLang</i> SHOULD be specified.
<i>Start</i>	w?	r?	<b>Note:</b> Detailed production scheduling is out of scope for this ICS. See ▶ [XJDF 2.0].

## 6.4 xjdf:RunList

*xjdf:RunList* is used to reference binary data such as the customer's artwork file. In the context of the **Automated Print Procurement ICS** it references the customer's artwork.

### 6.4.1 xjdf:ResourceSet

Table 6.15: *xjdf:RunList xjdf:ResourceSet* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w	r	See ▶ [XJDF 2.0].
<i>RunList</i>	w	r	The value of <i>@Name</i> shall be "RunList".
<i>Usage</i>	w	r	See ▶ [XJDF 2.0].
<i>Input</i>	w	r	The value of <i>@Usage</i> SHALL be "Input".
<i>xjdf:Resource</i> +	w	r	Not more than one <i>xjdf:RunList</i> SHALL be provided for each <i>xjdf:Product</i> . The pages SHALL be ordered in reader order within the referenced documents.

### 6.4.2 xjdf:Resource

Table 6.16: *xjdf:RunList xjdf:Resource* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:Part</i>	w←	r	Definition of the partition keys. Part SHALL be specified if multiple resource elements are provided.
<i>xjdf:RunList</i>	w	r	The specific <i>xjdf:RunList</i> element.

### 6.4.3 xjdf:Part

Table 6.17: *xjdf:RunList xjdf:Part* element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Run</i>	w←	r	<i>@Run</i> SHALL be specified if multiple resource elements are present in <i>xjdf:ResourceSet</i> [ <i>@Name</i> ="RunList"] unless pre-imposed press sheets are provided as content.
<i>SheetName</i>	w←	r?	<i>@SheetName</i> SHALL be specified if multiple pre-imposed press sheets are provided as content. <i>@SheetName</i> SHALL NOT be specified if <i>@Run</i> is present.
<i>Side</i>	w←	r?	<i>@Side</i> SHALL be specified if multiple pre-imposed press sheets are provided as content. <i>@Side</i> SHALL NOT be specified if <i>@Run</i> is present.
<all other values>	w!		Other partition keys SHALL NOT be present.

## 6.4.4 xjdf:RunList

Table 6.18: xjdf:RunList xjdf:Resource element

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:FileSpec</i>	w	r	The URL and metadata about the physical characteristics of a file.

## 6.4.4.1 xjdf:FileSpec

Table 6.19: xjdf:FileSpec element

NAME	MANAGER	WORKER	DESCRIPTION
<i>MimeType</i>	w	r	See ▶ [XJDF 2.0].
<i>application/pdf</i>	w←	r	PDF SHALL be accepted.
<i>&lt;all other values&gt;</i>	w?	r?	Other values for mime type MAY be specified but are out of scope of this ICS.
<i>URL</i>	w	r	See ▶ [XJDF 2.0]. See ▶ Section 1.2.2 XML and ZIP Packaging and ▶ Section 1.2.3 Availability of Referenced Assets.

---

# Appendix A

---

## A Examples

### A.1 Purchase Order

```
<PrintTalk ICSVersions="Cus-APP_L1-2.0"
timestamp="2019-10-23T09:28:00.000+02:00"
xmlns="http://www.printtalk.org/schema_20" xmlns:xjdf="http://www.CIP4.org/JDFSchema_2_0">
<Header>
  <From>
    <Credential domain="CustomerID">
      <Identity>CID-123</Identity>
    </Credential>
    <Credential domain="URL">
      <Identity>https://manager.example.org/XJDF</Identity>
    </Credential>
  </From>
  <To>
    <Credential domain="URL">
      <Identity>https://worker.example.org/XJDF</Identity>
    </Credential>
  </To>
</Header>
<Request BusinessID="B-42">
  <PurchaseOrder Expires="2019-10-24T10:00:00.000+02:00">
    <Pricing Currency="EUR">
      <Price DescriptiveName="1000 Flyer DIN A6" LineID="L-1"
        Price="100.00" PriceType="Product" TaxType="Net"/>
      <Price DescriptiveName="Tax 19 %" LineID="L-2" Price="19.00"
        PriceType="Product" TaxType="Tax"/>
      <Price DescriptiveName="Total Price" LineID="L-3"
        LineIDRefs="L-1 L-2" Price="119.00" PriceType="Total" TaxType="Gross"/>
    </Pricing>
    <xjdf:XJDF JobID="JOB-22" Types="Product">
      <xjdf:ProductList>
        <xjdf:Product Amount="1000">
          <xjdf:GeneralID IDUsage="LineID" IDValue="L-1"/>
          <xjdf:Intent Name="ColorIntent">
            <xjdf:ColorIntent>
              <xjdf:SurfaceColor
                ColorsUsed="Cyan Magenta Yellow Black"
                PrintStandard="FOGRA51" Surface="Front"/>
              <xjdf:SurfaceColor
                ColorsUsed="Cyan Magenta Yellow Black"
                PrintStandard="FOGRA51" Surface="Back"/>
            </xjdf:ColorIntent>
          </xjdf:Intent>
          <xjdf:Intent Name="LayoutIntent">
            <xjdf:LayoutIntent FinishedDimensions="297.64 419.53 0"
              Pages="2" Sides="TwoSidedHeadToHead" SpreadType="SinglePage"/>
          </xjdf:Intent>
          <xjdf:Intent Name="MediaIntent">
            <xjdf:MediaIntent Coating="None" MediaType="Paper" Weight="90"/>
          </xjdf:Intent>
        </xjdf:Product>
      </xjdf:ProductList>
      <xjdf:ResourceSet Name="Contact" Usage="Input">
        <xjdf:Resource>
          <xjdf:Part ContactType="Delivery"/>
          <xjdf:Contact>
            <xjdf:Address City="ExampleCity" Country="Germany"
              CountryCode="DE" PostalCode="12345"
              Region="North Rhine-Westphalia" Street="ExampleStreet 1"/>
          </xjdf:Contact>
        </xjdf:Resource>
      </xjdf:ResourceSet>
    </xjdf:XJDF>
  </PurchaseOrder>
</Request>
</PrintTalk>
```

```

        <xjdf:Company OrganizationName="Example Company Ltd."/>
    </xjdf:Contact>
</xjdf:Resource>
<xjdf:Resource>
    <xjdf:Part ContactType="SenderAlias"/>
    <xjdf:Contact>
        <xjdf:Address City="PrinterCity" Country="Germany"
            CountryCode="DE" PostalCode="54321" Street="Printerstreet 1"/>
        <xjdf:Company OrganizationName="ACME Printing"/>
    </xjdf:Contact>
</xjdf:Resource>
</xjdf:ResourceSet>
<xjdf:ResourceSet Name="DeliveryParams" Usage="Input">
    <xjdf:Resource>
        <xjdf:DeliveryParams Method="StandardShipping" Required="2019-10-28T16:00:00.000+02:00"/>
    </xjdf:Resource>
</xjdf:ResourceSet>
<xjdf:ResourceSet Name="NodeInfo" Usage="Input">
    <xjdf:Resource>
        <xjdf:NodeInfo NaturalLang="German"/>
    </xjdf:Resource>
</xjdf:ResourceSet>
<xjdf:ResourceSet Name="RunList" Usage="Input">
    <xjdf:Resource>
        <xjdf:RunList>
            <xjdf:FileSpec MimeType="application/pdf" URL="http://example.org/artwork.pdf"/>
        </xjdf:RunList>
    </xjdf:Resource>
</xjdf:ResourceSet>
</xjdf:XJDF>
</PurchaseOrder>
</Request>
</PrintTalk>

```

## A.2 Confirmation

```

<PrintTalk ICSVersions="Cus-APP_L1-2.0"
timestamp="2019-10-23T09:28:00.000+02:00" xmlns="http://www.printtalk.org/schema_20">
  <Header>
    <From>
      <Credential domain="URL">
        <Identity>https://worker.example.org/XJDF</Identity>
      </Credential>
    </From>
    <To>
      <Credential domain="URL">
        <Identity>https://manager.example.org/XJDF</Identity>
      </Credential>
    </To>
  </Header>
  <Request BusinessID="B-47" BusinessRefID="B-42">
    <Confirmation/>
  </Request>
</PrintTalk>

```

## A.3 Refusal

```
<PrintTalk ICSVersions="Cus-APP_L1-2.0"
timestamp="2019-10-23T09:28:00.000+02:00" xmlns="http://www.printtalk.org/schema_20">
<Header>
<From>
<Credential domain="URL">
<Identity>https://worker.example.org/XJDF</Identity>
</Credential>
</From>
<To>
<Credential domain="URL">
<Identity>https://manager.example.org/XJDF</Identity>
</Credential>
</To>
</Header>
<Request BusinessID="B-43" BusinessRefID="B-42">
<Refusal Reason="InvalidPrice" ReasonDetails="WrongPrice"/>
</Request>
</PrintTalk>
```

## A.4 OrderStatusResponse

```
<PrintTalk ICSVersions="Cus-APP_L1-2.0"
timestamp="2019-10-23T09:28:00.000+02:00"
xmlns="http://www.printtalk.org/schema_20" xmlns:xjdf="http://www.CIP4.org/JDFSchema_2_0">
<Header>
<From>
<Credential domain="URL">
<Identity>https://worker.example.org/XJDF</Identity>
</Credential>
</From>
<To>
<Credential domain="URL">
<Identity>https://manager.example.org/XJDF</Identity>
</Credential>
</To>
</Header>
<Request BusinessID="B-49" BusinessRefID="B-42">
<OrderStatusResponse JobIDRef="JOB-22">
<xjdf:AuditPool>
<xjdf:AuditNotification>
<xjdf:Header DeviceID="Example-Worker-1" Time="2019-10-23T09:28:00.000+02:00"/>
<xjdf:Notification Class="Event" JobID="B-52">
<xjdf:Milestone MilestoneType="PrePressCompleted"/>
</xjdf:Notification>
</xjdf:AuditNotification>
</xjdf:AuditPool>
</OrderStatusResponse>
</Request>
</PrintTalk>
```



# Appendix B

## B References

Throughout this specification references to other documents are indicated by short symbolic names inside square brackets (e.g., ▶ [PrintTalk]). Implementers need to read and conform to such referenced documents when implementing a part of this specification with such a reference. The reader is directed to this section to find the full title, date, source and availability of all such references.

Table B.1: References

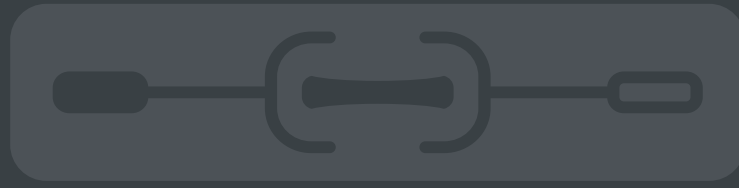
TERM	DEFINITION
[ISO12647-2:2013]	<p>ISO 12647-2:2013</p> <p>Graphic technology — Process control for the production of half-tone colour separations, proof and production prints — Part 2: Offset lithographic processes</p> <p>Date: 2013</p> <p>Produced by: ISO</p> <p>Available at: <a href="https://www.iso.org/store.html">https://www.iso.org/store.html</a></p>
[ISO8601]	<p>ISO 8601:2004</p> <p>Data elements and interchange formats — Information interchange — Representation of dates and times.</p> <p>Date: 2004</p> <p>Produced by: ISO</p> <p>Available at: <a href="https://www.iso.org/store.html">https://www.iso.org/store.html</a></p>
[PrintTalk]	<p>PrintTalk</p> <p>Version 2.0</p> <p>Date: October 2019</p> <p>Produced by: CIP4 Organization</p> <p>Available at: <a href="http://www.cip4.org">http://www.cip4.org</a></p>
[XJDF 2.0]	<p>Exchange Job Definition Format</p> <p>Version 2.0</p> <p>Date: January 2018</p> <p>Produced by: CIP4 Organization</p> <p>Available at: <a href="http://www.cip4.org">http://www.cip4.org</a></p>







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