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# ICS XJDF Print Procurement Interoperability Conformance Specification

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# 1 Introduction

This Interoperability Conformance Specification (ICS) document standardizes business transactions between a *Print Buyer* (manager) and a *Print Provider* (worker). In particular, this document defines a subset of the **XJDF** and **PrintTalk** specifications which has relevance for automated print procurement.

The ICS Document describes the business objects **PurchaseOrder**, **Confirmation**, **Refusal**, **OrderStatusResponse** and **ReturnJob** in an automated print procurement environment. The business object **PurchaseOrder** is designed for the submission of one or more print jobs from a *Print Buyer* (manager) to a *Print Provider* (worker). The business objects **Confirmation** and **Refusal** are used as a near-term response to the **PurchaseOrder** business object in order to confirm or refuse the job submission.

In case the job submission has been confirmed, all status updates are published by the *Print Provider* (worker) using **OrderStatusResponse** business objects. After job completion a **ReturnJob** business object is sent to the *Print Buyer* (manager).

► Figure 1-1: Print Procurment business objects illustrates the business objects as defined in this Interoperability Conformance Specification (ICS).

Figure 1-1: Print Procurment business objects

## 1.1 Specification of cardinality

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 condition 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 condition will be specified in the description.

## 1.2 Glossary

This section defines terminology used throughout this document. For general **XJDF** and **PrintTalk** terms please see ► [XJDF 2.0] and ► [PrintTalk] respectively.

Table 1.2: Glossary

TERM	DEFINITION
<b>Manager</b>	The software that implements the manager interface.

Table 1.2: Glossary

TERM	DEFINITION
<b>Print Buyer</b>	The customer that is buying a <i>Print Product</i> .
<b>Print Product</b>	The printed matter produced according to a contract negotiated between the <i>Print Buyer</i> and <i>Print Provider</i> using the <b>PrintTalk</b> negotiation process.
<b>Print Provider</b>	The producer of the <i>Print Product</i> .
<b>Worker</b>	The software that implements the worker interface.

### 1.3 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**.

Data conforming to this ICS will typically be deployed over the internet and therefore security and authentication need to be addressed. Since conforming data can contain sensitive data, it is strongly encouraged to use encryption technology whenever possible.

#### 1.3.1 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.

#### 1.3.2 Packaging / HTTP Content-Type

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]

### 1.4 Security

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

## 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	
<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, excluding any for <i>Print Procurement</i> , MAY be specified to indicate that the <b>PrintTalk</b> document conforms to other ICS's.
<i>timestamp</i>	wr?	wr?	The date and time the message was sent, in ▶ [ISO8601] format. @ <i>timestamp</i> SHALL NOT change for retry attempts.
<b>Header</b>	wr	wr	<b>Header</b> SHALL provide credentials of the parties that are involved.
<b>Request</b>	wr	wr	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>	wr	wr	<b>From</b> SHALL identify the original sender of the <b>PrintTalk</b> transaction. <b>Note:</b> This ICS assumes point to point interactions without 3rd party intermediaries.
<b>Sender</b>	w!		<b>Sender</b> SHOULD NOT be specified.
<b>To</b>	wr	wr	<b>To</b> SHALL identify the final recipient of the <b>PrintTalk</b> transaction.

### 2.3 From

#### 2.3.1 From (Manager)

Definition of the **From (Manager)** element that SHALL be written by the manager.

Table 2.3: From (Manager) element

NAME	MANAGER	WORKER	DESCRIPTION
<b>Credential</b> [@domain="CustomerID"]	w	r	The customers identification string in the scope of the worker.
<b>Credential</b> [@domain="ResponseURL"]	w←	r	<b>Credential</b> [@domain="ResponseURL"] SHALL specify the target URL for <b>OrderStatusResponse</b> business objects and SHOULD be present if a <b>PurchaseOrder/StatusRequest</b> is present.
<b>Credential</b> [@domain="URL"]	w	r	The URL of the sender. This URL SHALL be used as the destination for returning all <b>PrintTalk</b> business objects.

### 2.3.2 Example of a From element

### 2.3.3 From (Worker)

Definition of the **From (Worker)** element that SHALL be written by the worker.

Table 2.4: From (Worker) element

NAME	MANAGER	WORKER	DESCRIPTION
<b>Credential</b> [@domain="ResponseURL"]	w←	r	<b>Credential</b> [@domain="ResponseURL"] shall be specified if a <b>PurchaseOrder/StatusRequest</b> is present.
<b>Credential</b> [@domain="URL"]	w	r	The URL of the worker. This URL SHALL be a copy of the URL that received the initial request in the scope of the manager.

### 2.4 To

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

Table 2.5: To element

NAME	MANAGER	WORKER	DESCRIPTION
<b>Credential</b> [@domain="URL"]	rw	wr	The URL of the receiving worker or worker.

### 2.5 Credential

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

Table 2.6: Credential element

NAME	MANAGER	WORKER	DESCRIPTION
<b>domain</b>	rw	wr	See ▶ [PrintTalk].
<b>Identity</b>	rw	wr	See ▶ [PrintTalk].

### 2.6 Request

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

In the context of the business transaction *Purchase Order* the **Request** element contains a single **PurchaseOrder** element.

Table 2.7: Request element

NAME	MANAGER	WORKER	DESCRIPTION
<i>BusinessID</i>	wr	wr	The unique identifier for this <i>Business Object</i> .
<i>BusinessRefID</i>	w←r	wr	@ <i>BusinessRefID</i> SHALL NOT be present in a <i>PurchaseOrder</i> and SHALL be present in all other <i>Business Objects</i> . In the context of this <b>ICS</b> , the value of @ <i>BusinessRefID</i> SHALL be <i>Request/@BusinessID</i> of the initiating <i>PurchaseOrder</i> .
<i>Confirmation</i>	r	w←	<i>Confirmation</i> confirms the referred business object. In the context of the <b>Automated Print Procurement ICS</b> , the initiating business object <i>PurchaseOrder</i> SHALL be accepted with all its details specified. <i>Confirmation</i> SHALL NOT be sent prior to confirming that the job can be produced as requested and using the referenced print data. <b>Note:</b> That this implies an implementation dependent pre-flight check.
<i>OrderStatusResponse</i>	r?	w?	An automatically generated <i>OrderStatusResponse</i> business object which describes the status of an order whose associated <i>PurchaseOrder</i> is referenced by the @ <i>BusinessRefID</i> . <i>OrderStatusResponse</i> SHOULD be provided whenever a print job passes a <i>Milestone</i> .
<i>PurchaseOrder</i>	w←	r	The <i>PurchaseOrder</i> business object which contains all details about a single purchase order.
<i>Refusal</i>	r	w←	A <i>Refusal</i> refuses a business object. In the context of the <b>Print Procurement ICS</b> the <i>Refusal</i> business object refuses the referred <i>PurchaseOrder</i> business object. This means that the automated job submission is NOT accepted.
<i>ReturnJob</i>	r	w←	A <i>ReturnJob</i> business object SHALL be sent to the manager as soon as an order has been completed. A <i>ReturnJob</i> business object SHALL contain at least the delivery details for the jobs. <b>Note:</b> The requirements for the returned data can be extended by additional ICS documents.
<All other Business Objects>	w?r?	w?r?	Additional business objects 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 manager (*Print Buyer*) and the manager (*Print Provider*).

## 3.1 PurchaseOrder

A **PurchaseOrder** business object places a new order at the worker (*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> becomes invalid. 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. After that time the <b>PurchaseOrder</b> is assumed to be refused in case no <b>Confirmation</b> has been successfully received by the <i>Print Buyer</i> .
<i>Pricing</i>	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.
<i>StatusRequest</i> *	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 StatusRequest

Table 3.2: StatusRequest element

NAME	MANAGER	WORKER	DESCRIPTION
<i>JobIDRef</i>	w!		Only global status subscriptions are supported by this ICS.
<i>MilestoneAmount</i>	w←	r	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].
<all other values>	w!		See ▶ [PrintTalk].
<i>ResourceAudit</i>	w←	r	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.

Table 3.2: StatusRequest element

<i>Subscribed</i>	w	r	See ▶ [PrintTalk].
false	w!		@Subscribed="false" SHALL NOT be specified in a <i>PurchaseOrder/StatusRequest</i> . Unsubscribed direct status requests are out of the scope of this ICS.
true	w	r	

### 3.2 Confirmation

The *Confirmation* business object confirms the initiating business object, including all specified details, which is referenced by @BusinessRefID. The *Confirmation* business object SHALL 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 3.3: Confirmation

NAME	MANAGER	WORKER	DESCRIPTION
<empty>			

### 3.3 Refusal

The *Refusal* business object refuses the initiating business object, which is referenced by @BusinessRefID.

Flow: *Print Provider to Print Buyer*

Table 3.4: Refusal

NAME	MANAGER	WORKER	DESCRIPTION
<i>Reason</i>	r?	w	@Reason SHALL be specified. See ▶ [PrintTalk] for a list of valid values.
<i>ReasonDetails</i>	r?	w?	@ReasonDetails SHOULD be supplied

### 3.4 OrderStatusResponse

*OrderStatusResponse* business objects SHALL be sent to the *Manager* whenever a condition as specified in a *PurchaseOrder/StatusRequest* is triggered.

Flow: *Print Provider to Print Buyer*

Table 3.5: OrderStatusResponse

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:Notification</i>	r?	w	<i>Notification</i> elements with @Type="Milestone" that describes the current status of the job.

### 3.5 ReturnJob

The worker SHALL send to the manager a *ReturnJob* business object whose @BusinessRefID references the order's initial *PurchaseOrder*.

Flow: *Print Provider to Print Buyer*



Table 3.6: ReturnJob

NAME	MANAGER	WORKER	DESCRIPTION
<i>xjdf:XJDF</i>	r?	w	A <b>XJDF</b> document containing an <b>AuditPool</b> that contains <b>AuditResource</b> audits that provide additional information such as quality reports or delivery details.

### 3.5.1 XJDF

Table 3.7: XJDF

NAME	MANAGER	WORKER	DESCRIPTION
<i>ICSVersions</i>	r	w	Specifies the <b>XJDF</b> document conforms to this version of the <b>Print Procurement ICS</b> . <b>SHALL contain:</b> <b>CusEP_L1-2.0</b> - Print Procurement ICS - Level 1 - Version 2.0 <b>MAY contain:</b> Further ICS Identifiers in case the <b>XJDF</b> is compliant to additional ICS Documents.
<i>JobID</i>	r	w	Job identification in the context of the Manager. This SHALL be a copy of //PurchaseOrder/XJDF/@JobID of the originating <b>PurchaseOrder</b> .
<i>Types</i>	r	w	Defines the documents type. This SHOULD be a copy of //PurchaseOrder/XJDF/@Types of the originating <b>PurchaseOrder</b> . If additional process have been added, additional type values MAY be added to @Types.
<b>Product</b>	r	w	The <b>XJDF</b> SHALL contain a product description.
<all other values>	r?	w?	
<b>AuditPool</b>	r?	w	<b>AuditPool</b> elements contain the post-facto recorded results of a process. In the context of this ICS this element contains delivery details.

### 3.5.2 AuditPool

Container element for tracking production results.

Table 3.8: AuditPool element

NAME	MANAGER	WORKER	DESCRIPTION
<b>AuditResource</b>	r?	w←	The <b>AuditResource</b> element describes the usage of resources during execution of a process.

#### 3.5.2.1 AuditResource

Container element for describing production results.

Table 3.9: AuditResource element

NAME	MANAGER	WORKER	DESCRIPTION
<b>Header</b>	r?	w←	<b>Header</b> SHALL provide information about the sender of an audit.
<b>ResourceInfo</b>	r?	w←	<b>ResourceInfo</b> contains the details of an individual resource.

#### 3.5.2.2 Header

Container element for describing the senders details.

Table 3.10: Header element

NAME	MANAGER	WORKER	DESCRIPTION
<i>DeviceID</i>	r?	w	Unique identifier of the sender (worker).
<i>Time</i>	r?	w	Date and time when the message was generated.

3.5.2.3 ResourceInfo

Container element for describing production results.

Table 3.11: ResourceInfo element

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

3.5.2.4 DeliveryParams

Container element for **DeliveryParams** resources. **DeliveryParams** are used to define delivery details such as tracking numbers etc.

Table 3.12: DeliveryParams ResourceSet

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	r	w	The value SHALL be "DeliveryParams".
<b>Resource</b> +	r	w	Definition of the delivery packages. If multiple packages with multiple tracking identifiers were sent, <b>Resource/Part/@DropID</b> SHALL be specified.

3.5.2.5 Resource

Table 3.13: DeliveryParams resource

NAME	MANAGER	WORKER	DESCRIPTION
<b>xjdf:Part</b>	r	w←	Definition of the partition keys. If more than one <b>DeliveryParams</b> resource is specified, <b>Part</b> SHALL be present.
<b>xjdf:DeliveryParams</b>	r	w	The specific <b>DeliveryParams</b> element.

3.5.2.6 Part

Table 3.14: DeliveryParams Part element

NAME	MANAGER	WORKER	DESCRIPTION
<i>DropID</i>	w	r	@DropID SHALL be specified if multiple resource elements are present in <b>ResourceSet</b> [@Name="DeliveryParams"].
<all other values>	w!		Other partition keys SHALL NOT be present

# 4 PrintTalk Subelements

## 4.1 Pricing

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

Table 4.1: Pricing element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Currency</i>	w	r	See ▶ [PrintTalk].
<b>Price</b> +	w	r	Each <b>Price</b> element represents an individual price line. The order of <b>Price</b> elements SHALL NOT have a meaning.
<i>xjdf:Contact</i>	w?	r	See ▶ [PrintTalk].

## 4.2 Price

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

Table 4.2: 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	@ <i>LineIDRefs</i> SHALL reference the <b>Price</b> elements that are summed up to define this price. @ <i>LineIDRefs</i> SHALL NOT be specified for individual lines that are not the sum of multiple lines. The value of prices that are not referenced by a @ <i>LineIDRefs</i> are the legally binding prices. <b>Note:</b> Sometimes the sum of lines is different than the result due to rounding.
<i>Price</i>	w	r	The price value in the selected currency.
<i>PriceType</i>	w	r	Machine readable type of the price.
<b>Discount</b>	w←	r	Discount prices SHALL be negative.
<b>Product</b>	w	r	The requested product.
<b>Shipping</b>	w←	r	This price relates to shipping charges.
<b>Total</b>	w	r	The total price.
<all other values>	w?	r?	Any other price types not described above.
<i>TaxType</i>	w	r	@ <i>TaxType</i> SHALL specify the taxation method of the <b>Price</b> . <b>Note:</b> The "Gross" price MAY differ from the sum of "Net" price and "Tax" due to rounding.
<b>Gross</b>	w?	r	The price includes taxes.
<b>Net</b>	w?	r	The price excludes taxes.
<b>Tax</b>	w?	r	The price is tax only.



# 5 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.

## 5.1 XJDF

Table 5.1: XJDF element

NAME	MANAGER	WORKER	DESCRIPTION
<i>JobID</i>	w	r	Job identification in the context of the manager. <b>Note:</b> @ <i>JobID</i> will typically not to be used as the internal job identifier by the worker.
<i>Types</i>	w	r	Defines the documents type.
<b>Product</b>	w	r	The <b>XJDF</b> SHALL contain a product description.
<all other values>	w?	r?	
<b>ProductList</b>	w←	r	<b>ProductList</b> specifies a list of products and product parts from the print buyer's point of view. A <b>ProductList</b> element SHALL be provided within a <b>PurchaseOrder</b> business object.
<b>ResourceSet</b> [@Name="Contact"]	w←	r	Container for a <b>Contact</b> resource that in turn contains details such as delivery address, senders address or customer details. Contact details SHALL be provided within a <b>PurchaseOrder</b> business object.
<b>ResourceSet</b> [@Name="DeliveryParams"]	w←	r	Container for <b>DeliveryParams</b> resources that in turn contain delivery details including split deliveries and shipping details.
<b>ResourceSet</b> [@Name="NodeInfo"]	w←	r	Container for a <b>NodeInfo</b> resource that in turn contains scheduling details. Scheduling details SHALL be provided within a <b>PurchaseOrder</b> business object.
<b>ResourceSet</b> [@Name="RunList"]	w←	r	Container for a <b>RunList</b> resource that in turn contains details about the customers artwork. An artwork SHALL be provided within a <b>PurchaseOrder</b> business object.
<b>ResourceSet</b> <all others>	w?	r?	Additional details may be specified but are out of scope for this ICS.

### 5.1.1 ProductList

The **ProductList** element is a container for one or multiple **Product** elements. Each **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 products is a brochure with an extra cover (i. e. stronger paper or different color or finishing configuration).

Table 5.2: ProductList

NAME	MANAGER	WORKER	DESCRIPTION
<b>Product</b> +	w	r	<b>ProductList</b> SHALL contain exactly one root product ( <b>/Product/</b> @IsRoot="true"). Partial products ( <b>/Product/</b> @IsRoot="false") 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.

## 5.1.2 Product

### 5.1.2.1 Product (Detailed definition by Attributes)

The **Product** element specifies an individual product or product part. The product has to be specified explicitly by its attributes.

Table 5.3: Product element - definition by attributes

NAME	MANAGER	WORKER	DESCRIPTION
<b>Amount</b>	w←	r	If @IsRoot="true", this attribute SHALL define the total number of final products needed. When specifying a product part with @IsRoot="false", the attribute @Amount 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.
<b>ExternalID</b>	w!		The attribute @ExternalID SHALL NOT be written in a product description by attributes. <b>Note:</b> The absence of this attribute identifies a product description as a description by attributes.
<b>IsRoot</b>	w	r	If true, this <b>Product</b> element describes either a self-contained product or describes the root product part of a multi-part product description. If false, this <b>Product</b> element is a product part of another <b>Product</b> , such as a cover or body of a brochure.
<b>GeneralID</b> [@IDUsage="LineID"]	w←	r	<b>GeneralID/</b> @IDValue SHALL reference the <b>ptk:Pricing/ptk:Price/</b> @LineID of the pricing element that describes the price of this <b>Print Product</b> . This element SHALL be written in case @IsRoot="true" and <b>ptk:Pricing</b> is provided.
<b>Intent</b> [@Name="BindingIntent"]	w?	r	<b>BindingIntent</b> specifies the binding of a product. In case of a multi-part product description, this intent SHALL reference the product parts (@IsRoot="false").
<b>Intent</b> [@Name="ColorIntent"]	w	r	<b>ColorIntent</b> specifies the color and varnishing of the product.
<b>Intent</b> [@Name="FoldingIntent"]	w?	r	<b>FoldingIntent</b> specifies the straight line folding, creasing and perforating of a product.
<b>Intent</b> [@Name="LayoutIntent"]	w	r	<b>LayoutIntent</b> specifies the size and orientation of the finished pages.
<b>Intent</b> [@Name="MediaIntent"]	w	r	<b>MediaIntent</b> describes the printing substrate to be used for the product.
<b>Intent</b> [@Name="ProductionIntent"]	w?	r	<b>ProductionIntent</b> describes the print process for producing the product, either digital or offset.

Table 5.3: Product element - definition by attributes

NAME	MANAGER	WORKER	DESCRIPTION
<All other Intents>	w?	r	All further intents are optional for the manager. The worker SHALL at least detect that a specific intent is not supported. <b>Note:</b> Detecting unsupported intents will typically cause an order refusal.

### 5.1.2.2 Product (Definition by Identifier)

In addition to the description of products by attributes, products can also be defined using an unique predefined product identifier (*@ExternalID*). This method assumes some kind of product synchronization in advance where a specific product configuration has been bound to an unique identifier.

Table 5.4: Product element - definition by identifier

NAME	MANAGER	WORKER	DESCRIPTION
<i>Amount</i>	w	r	If <i>@IsRoot="true"</i> , this attribute SHALL defines the total number of final products needed. For product parts the attribute <i>@Amount</i> SHALL define how many product parts are needed in order to produce a single final <i>Product</i> .
<i>ExternalID</i>	w	r	External identifier of a product description. <b>Note:</b> The synchronization of <i>@ExternalID</i> values is out of scope.
<i>IsRoot</i>	w	r	If true, this <i>Product</i> element describes either a self-contained product or describes the root product part of a multi-part product description. If false, this <i>Product</i> element is a product part of another <i>Product</i> , such as a cover or body of a brochure.
<i>GeneralID</i> [ <i>@IDUsage="LineID"</i> ]	w←	r	<i>GeneralID/@IDValue</i> SHALL reference the <i>ptk:Pricing/ptk:Price/@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>ptk:Pricing</i> is provided.
<All other Intents>	w?	r	Intent elements SHALL extend or overwrite product properties of the standard product referenced by <i>@ExternalID</i> . If a worker does not support extension by intents, the worker SHALL at least detect that a specific intent is not supported. <b>Note:</b> Detecting unsupported intents will typically cause an order refusal.

### 5.1.3 Intent

PPICS-87 Placeholder

Table 5.5: Intent

NAME	MANAGER	WORKER	DESCRIPTION

### 5.1.4 BindingIntent

BindingIntent specifies the binding intent for a product.

Table 5.6: BindingIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<i>BindingType</i>	w	r	Specifies the desired binding for the job.
<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>ChildRefs</i>	w←	r	Reference to two or more child products that SHALL be bound together - each child product is identified by <i>Product/@ID</i> (e.g., cover and body of a book). This attribute SHALL NOT be specified for self-contained products.

### 5.1.5 ColorIntent

**ColorIntent** specifies the color and varnishing intent for a product. Each surface SHALL be specified individually in a **SurfaceColor** element. Single sided printing SHALL be specified by providing exactly one **SurfaceColor** element. In addition to the printed images, **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**.

Table 5.7: ColorIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<i>SurfaceColor</i> +	w	r	<b>SurfaceColor</b> elements specify the color configuration of the desired product's surface.

#### 5.1.5.1 SurfaceColor

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

Table 5.8: SurfaceColor element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Coatings</i>	w?	r	Material usually applied to a full surface on a press as a protective or gloss-enhancing layer over ink.
<i>ColorsUsed</i>	w?	r	Array of colorant separation identifiers that are requested for this <b>SurfaceColor</b> . If specified <i>@ColorsUsed</i> SHALL contain a list of all separation identifiers used by the product or a list of spot colors. If not specified, then this <b>SurfaceColor</b> explicitly requests no colors on the surface. <b>Samples are:</b> "Black" - Single color print in black only. "Cyan Magenta Yellow Black" - Four colors print in CMYK.
<i>PrintStandard</i>	w?	r	Specifies the reference name of a characterization data set.
<i>Surface</i>	w	r	Identifies the product's surface to which this element applies.
Back	w	r	The back surface.
Front	w	r	The front surface.

### 5.1.6 FoldingIntent

**FoldingIntent** specifies the straight line folding of a product.



Table 5.9: FoldingIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<i>FoldCatalog</i>	w	r	Describes the folding scheme of the final product.
<i>Orientation</i>	w	r	@ <i>Orientation</i> indicates the orientation of the unfolded product with respect to the lay of the fold. A value of "Rotate0" SHALL be mapped to the lay of the fold on the lower left of the product prior to folding and the front side of the product oriented in the direction of an upward fold.

### 5.1.7 LayoutIntent

**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 **LayoutIntent**.

Table 5.10: LayoutIntent element

NAME	MANAGER	WORKER	DESCRIPTION
<i>Dimensions</i>	w?	r	Specifies the width (X) and height (Y) in points, respectively, of the trimmed and unfolded (flat) product. <b>Note:</b> This is commonly known as the open product size
<i>FinishedDimensions</i>	w	r	Specifies the width (X), height (Y) and depth (Z) in points, respectively, of the final product. If the Z coordinate is 0, it is ignored (unknown). <b>Note:</b> This is commonly known as the closed product size
<i>Pages</i>	w	r	Specifies the number of finished pages (surfaces) of the product component, including blank pages. See @ <i>SpreadType</i> for a discussion of the scope of @ <i>Pages</i> .
<i>Sides</i>	w	r	@ <i>Sides</i> specifies which side of the product SHALL be printed.
<i>SpreadType</i>	w	r	@ <i>SpreadType</i> SHALL specify the treatment of individual PDF pages referenced by the (TBD - what Part) <b>Part</b> node for which @ <i>SpreadType</i> is specified for imposition purposes.

### 5.1.8 MediaIntent

#### 5.1.8.1 MediaIntent (Quality Description)

The **MediaIntent** element describes the substrate to be used for the product or product part.

Table 5.11: MediaIntent element - quality description

NAME	MANAGER	WORKER	DESCRIPTION
<i>MediaQuality</i>	w	r	Named quality description of the media. Media with the same @ <i>MediaQuality</i> are identical from the customer point of view. Thus characteristics such as weight, coatings or recycling percentage are identical, whereas lot or sheet dimension may vary based on production or warehousing requirements.
<i>MediaType</i>	w	r	Type of the printed material. <b>Note:</b> In most cases the value will be "Paper".

#### 5.1.8.2 MediaIntent(Detailed Description)

The **MediaIntent** element describes the substrate to be used for the product or product part.

Table 5.12: MediaIntent element - detailed description

NAME	MANAGER	WORKER	DESCRIPTION
<i>Brand</i>	w?	r	Brand or manufacturer of the media.
<i>MediaQuality</i>	w!		The attribute <i>@MediaQuality</i> SHALL NOT be written in a detailed media description. <b>Note:</b> The absence of this attribute identifies a detailed media description.
<i>MediaType</i>	w	r	Type of the printed material. <b>Note:</b> In most cases the value will be "Paper".
<i>Coating</i>	w	r	<i>@Coating</i> SHALL specify the pre-process coating of the media.
<i>Weight</i>	w	r	The intended weight of the media, measured in grammage (g/m <sup>2</sup> ) of the media.
<i>ISOPaperSubstrate</i>	w?	r	<i>@ISOPaperSubstrate</i> SHALL specify the type of paper material defined in accordance with the print substrate, see <a href="#">▶ [ISO12647-2:2013]</a> .
<i>Certification</i>	w?	r	Each <i>Certification</i> specifies a minimum requested paper certification level.

### 5.1.8.3 Certification

Certification specifies the certification properties of paper.

Table 5.13: Certification element

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

### 5.1.9 ProductionIntent

TBD - Place holder for link from [Product](#)

# 6 XJDF Resources

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

## 6.1 Contact

Contacts are used to define various types of contact details.

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

### 6.1.1 ResourceSet

Table 6.1: Contact ResourceSet

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w	r	See ▶ [XJDF 2.0].
<b>Contact</b>	w r	r w	Mandatory for a <b>Contact</b> resource.
<all other values>	w!	w!	
<i>Usage</i>	w r	r w	See ▶ [XJDF 2.0].
<b>Input</b>	w r	r w	The value of <code>@Usage</code> SHALL be "Input".
<all other values>	w!	w!	
<b>Part</b>	w	r	<b>Part</b> SHALL be present.

### 6.1.2 Resource

Table 6.2: Contact Resource element

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

### 6.1.3 Part

Table 6.3: Contact Part element

NAME	MANAGER	WORKER	DESCRIPTION
<i>ContactType</i>	w	r	<code>@ContactType</code> shall be specified for <b>Contact</b> .
<b>Delivery</b>	w←	r	One delivery address SHALL be specified for each delivery.
<b>SenderAlias</b>	w?	r	Definition of the 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.

Table 6.3: Contact Part element

NAME	MANAGER	WORKER	DESCRIPTION
<i>DropID</i>	w←	r	If more than one delivery address or delivery date is specified, then <i>@DropID</i> SHALL also be specified.

#### 6.1.4 Contact

Table 6.4: Contact

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

##### 6.1.4.1 Address

Definition of an address.

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

Table 6.5: Address element

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

##### 6.1.4.2 Company

Table 6.6: Company element

NAME	MANAGER	WORKER	DESCRIPTION
<i>OrganizationName</i>	w	r	Name of the organization or company.

## 6.1.4.3 Person

Table 6.7: Person element

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

## 6.2 DeliveryParams

*DeliveryParams* are used to define details of shipping.

## 6.2.1 ResourceSet

Table 6.8: DeliveryParams ResourceSet

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w	r	See ▶ [XJDF 2.0].
<i>DeliveryParams</i>	w r	r w	Mandatory for a <i>DeliveryParams</i> resource.
<all other values>	w!	w!	
<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".
<all other values>	w!	w!	
<i>Resource</i> +	w	r	Shipping details such as the planned delivery of the product.

## 6.2.2 Resource

Table 6.9: DeliveryParams resource

NAME	MANAGER	WORKER	DESCRIPTION
<i>DeliveryParams</i>	w	r	The specific <i>DeliveryParams</i> element.

## 6.2.3 DeliveryParams

Table 6.10: DeliveryParams

NAME	MANAGER	WORKER	DESCRIPTION
<i>Method</i>	w? r?	r w?	Delivery method
<i>StandardShipping</i>	w← r?	r w←	Delivery according to the standard terms of service of the carrier, optimized by price.
<i>ExpressShipping</i>	w← r?	r w←	Guaranteed delivery, faster than " <i>StandardShipping</i> ", optimized by time.

Table 6.10: DeliveryParams

NAME	MANAGER	WORKER	DESCRIPTION
<all other values>	w? r?	r? w?	
<i>Required</i>	w← r?	r w?	The date and time by which the delivery is intended to be made (commonly known as the customers delivery date). <b>Condition:</b> One of //DeliveryParams/@Required or //NodeInfo/@End SHALL be written.
<i>TrackingID</i>	w? r?	r? w←	The carrier's identifier for the delivery. The format of @TrackingID is determined by the carrier chosen to ship the product(s). <b>Condition:</b> Worker SHALL write if available.

## 6.3 NodeInfo

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

### 6.3.1 ResourceSet

Table 6.11: NodeInfo ResourceSet

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w	r	See ▶ [XJDF 2.0].
<b>NodeInfo</b>	w r	r w	Mandatory for a <b>NodeInfo</b> resource.
<all other values>	w!	w!	
<i>Usage</i>	w r	r w	See ▶ [XJDF 2.0].
<b>Input</b>	w r	r w	The value of @Usage SHALL be "Input".
<all other values>	w!	w!	
<b>Resource</b>	w	r	Scheduling details such as the planned production date of the product.

### 6.3.2 Resource

Table 6.12: NodeInfo resource

NAME	MANAGER	WORKER	DESCRIPTION
<b>NodeInfo</b>	w	r	The specific <b>NodeInfo</b> element.

### 6.3.3 NodeInfo

Table 6.13: NodeInfo

NAME	MANAGER	WORKER	DESCRIPTION
<i>End</i>	w←	r	Date and time at which the product is scheduled to be completely manufactured. <b>Note:</b> This date excludes shipping times. <b>Condition:</b> One of //DeliveryParams/@Required or //NodeInfo/@End SHALL be written.

Table 6.13: NodeInfo

NAME	MANAGER	WORKER	DESCRIPTION
<i>FirstStart</i>	w!		If initial start times are requested, use <i>@Start</i> .
<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.

## 6.4 RunList

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

The customer can either deliver a single file which contains all pages of the final product in reader order, or he can provide one file per page.

### 6.4.1 ResourceSet

Table 6.14: RunList ResourceSet

NAME	MANAGER	WORKER	DESCRIPTION
<i>Name</i>	w	r	See ▶ [XJDF 2.0].
<b>RunList</b>	w r	r w	Mandatory for a <i>RunList</i> resource.
<all other values>	w!	w!	
<i>Usage</i>	w r	r w	See ▶ [XJDF 2.0].
<b>Input</b>	w r	r w	The value of <i>@Usage</i> SHALL be "Input".
<all other values>	w!	w!	
<b>Resource</b> +	w	r	The artwork is provided in a single file. The pages SHALL be ordered in reader order within the referenced documents.

### 6.4.2 Resource

Table 6.15: RunList resource

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

### 6.4.3 Part

Table 6.16: RunList 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>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.

Table 6.16: RunList Part element

NAME	MANAGER	WORKER	DESCRIPTION
<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 RunList

Table 6.17: RunList resource

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

##### 6.4.4.1 FileSpec

Table 6.18: FileSpec element

NAME	MANAGER	WORKER	DESCRIPTION
<i>MimeType</i>	w	r	The MIME type of the file according to the MIME media type registered with IANA.
<i>application/pdf</i>	w←	r	PDF SHALL be accepted.
<all other values>	w?	r?	All other values are optional.
<i>URL</i>	w	r	Location of the file specified as either an absolute URI or a relative URI. In case of ZIP packaging, the URL shall reference a relative path, otherwise the URL SHALL reference an absolute URL.



# 7 XJDF Subelements

The elements in this chapter are subelements that can occur in multiple resources.

## 7.1 GeneralID

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

Table 7.1: GeneralID

NAME	MANAGER	WORKER	DESCRIPTION
<i>IDUsage</i>	w	r	<b>Allowed values are:</b>
LineID	w←	r	The unique identifier for the line item that this <i>ptk:Price</i> represents.
<all other values>	w?	r?	
<i>IDValue</i>	w	r	The appropriate line value.

## 7.2 Milestone

The status of a print job on the level of milestones.

Table 7.2: Milestone

NAME	MANAGER	WORKER	DESCRIPTION
<i>MilestoneType</i>	r	w	Type of Milestone.
JobCompletedSuccessfully	r	w	See ▶ [XJDF 2.0].
PrePressCompleted	r	w	See ▶ [XJDF 2.0].
PressCompleted	r	w	See ▶ [XJDF 2.0].
PostPressCompleted	r	w	See ▶ [XJDF 2.0].
<all other values>	r?	w?	Additional milestones may be sent but are out of scope of this ICS.

## 7.3 Notification

This element contains information about individual events that occurred during processing.

Table 7.3: Notification

NAME	MANAGER	WORKER	DESCRIPTION
<i>Class</i>	r?	w	The value of <i>@Class</i> shall be "Event".
<i>JobID</i>	r?	w	Identifier of the job that this <i>Notification</i> applies to in the context of the manager. This SHALL be a copy of <i>PurchaseOrder/XJDF/@JobID</i> .
<i>Milestone</i>	r?	w	The milestone definition.



# Appendix A

## A Examples

### A.1 Purchase Order

```
<ptk:PrintTalk Timestamp="2018-08-23T09:28:00+02:00" xmlns:ptk="http://www.print-talk.org/sche-
ma_20"
    xmlns:xjdf="www.CIP4.org/JDFSchema_2_0">
  <ptk:Header>
    <ptk:From>
      <ptk:Credential domain="xjdf:CustomerID">42</ptk:Credential>
      <ptk:Credential domain="xjdf:URL">https://m.example.org/XJDF</ptk:Credential>
    </ptk:From>
    <ptk:To>
      <ptk:Credential domain="xjdf:URL">https://w.example.org/XJDF</ptk:Credential>
    </ptk:To>
  </ptk:Header>
  <ptk:Request BusinessID="B-42" Expires="2018-08-24T10:00:00+02:00">
    <ptk:PurchaseOrder Currency="EUR">
      <ptk:Pricing>
        <ptk:Price DescriptiveName="1000 Flyer DIN A6" PriceType="Product"
          TaxType="Net" LineID="L-1" Price="100.00"/>
        <ptk:Price DescriptiveName="Tax 19 %" PriceType="Product"
          TaxType="Tax" LineID="L-2" Price="19.00"/>
        <ptk:Price DescriptiveName="Total Price" PriceType="Total"
          TaxType="Gross" LineID="L-3" LineIDRefs="L-1 L-2" Price="119.00"/>
      </ptk:Pricing>
      <xjdf:XJDF ICSVersions="CusEP_L1-2.0" 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"
                  Surface="Front" PrintStandard="FOGRA51"/>
                <xjdf:SurfaceColor ColorsUsed="Cyan Magenta Yellow Black"
                  Surface="Back" PrintStandard="FOGRA51"/>
              </xjdf:ColorIntent>
            </xjdf:Intent>
            <xjdf:Intent Name="LayoutIntent">
              <xjdf:LayoutIntent FinishedDimensions="297.64 419.53" Pages="2"
                Sides="TwoSidedHeadToHead" SpreadType="SinglePage"/>
            </xjdf:Intent>
            <xjdf:Intent Name="MediaIntent">
              <xjdf:MediaIntent MediaQuality="IPG_135" MediaType="Paper"/>
            </xjdf:Intent>
          </xjdf:Product>
        </xjdf:ProductList>
        <xjdf:ResourceSet Name="Contact">
          <xjdf:Resource>
            <xjdf:Part ContactType="Customer"/>
            <xjdf:Contact>
              <xjdf:Address City="Boston"/>
              <xjdf:Company OrganizationName="My Organization Ltd."/>
            </xjdf:Contact>
          </xjdf:Resource>
          <xjdf:Resource>
            <xjdf:Part ContactType="Delivery"/>
            <xjdf:Contact>
              <xjdf:Address City="Boston"/>
              <xjdf:Person FamilyName="Mustermann" FirstName="Max"/>
            </xjdf:Contact>
          </xjdf:Resource>
        </xjdf:ResourceSet>
      </xjdf:XJDF>
    </ptk:PurchaseOrder>
  </ptk:Request>
</ptk:PrintTalk>
```

```

    <xjdf:Resource>
      <xjdf:Part ContactType="SenderAlias"/>
      <xjdf:Contact>
        <xjdf:Address City="New York"/>
        <xjdf:Company OrganizationName="The PrintShop Ltd."/>
      </xjdf:Contact>
    </xjdf:Resource>
  </xjdf:ResourceSet>
  <xjdf:ResourceSet Name="DeliveryParams">
    <xjdf:Resource>
      <DeliveryParams Required="2018-08-28T16:00:00+02:00"/>
    </xjdf:Resource>
  </xjdf:ResourceSet>
  <xjdf:ResourceSet Name="RunList">
    <xjdf:Resource>
      <xjdf:RunList>
        <xjdf:FileSpec MimeType="application/pdf"
          URL="http://example.org/artwork.pdf"/>
      </xjdf:RunList>
    </xjdf:Resource>
  </xjdf:ResourceSet>
</xjdf:XJDF>
</ptk:PurchaseOrder>
</ptk:Request>
</ptk:PrintTalk>

```

## A.2 Confirmation

```

<ptk:PrintTalk Timestamp="2018-08-23T09:28:00+02:00"
  xmlns:ptk="http://www.print-talk.org/schema_20">
  <ptk:Header>
    <ptk:From>
      <ptk:Credential domain="xjdf:URL">https://w.example.org/XJDF</ptk:Credential>
    </ptk:From>
    <ptk:To>
      <ptk:Credential domain="xjdf:URL">https://m.example.org/XJDF</ptk:Credential>
    </ptk:To>
  </ptk:Header>
  <ptk:Request BusinessID="B-xx" BusinessRefID="B-42">
    <ptk:Confirmation/>
  </ptk:Request>
</ptk:PrintTalk>

```

## A.3 Refusal

```

<ptk:PrintTalk Timestamp="2018-08-23T09:28:00+02:00"
  xmlns:ptk="http://www.print-talk.org/schema_20">
  <ptk:Header>
    <ptk:From>
      <ptk:Credential domain="xjdf:URL">https://w.example.org/XJDF</ptk:Credential>
    </ptk:From>
    <ptk:To>
      <ptk:Credential domain="xjdf:URL">https://m.example.org/XJDF</ptk:Credential>
    </ptk:To>
  </ptk:Header>
  <ptk:Request BusinessID="B-xx" BusinessRefID="B-42">
    <ptk:Refusal Reason="InvalidPrice"/>
  </ptk:Request>
</ptk:PrintTalk>

```

## A.4 OrderStatusResponse

```
<ptk:PrintTalk Timestamp="2018-08-23T09:28:00+02:00"
  xmlns:ptk="http://www.print-talk.org/schema_20" xmlns:xjdf="www.CIP4.org/JDFSche-
ma_2_0">
  <ptk:Header>
    <ptk:From>
      <ptk:Credential domain="xjdf:URL">https://w.example.org/XJDF</ptk:Credential>
    </ptk:From>
    <ptk:To>
      <ptk:Credential domain="xjdf:URL">https://m.example.org/XJDF</ptk:Credential>
    </ptk:To>
  </ptk:Header>
  <ptk:Request BusinessID="B-xx" BusinessRefID="B-42">
    <ptk:OrderStatusResponse>
      <xjdf:Notification JobID="Job-1234" Class="Event">
        <xjdf:Milestone MilestoneType="PressCompleted"/>
      </xjdf:Notification>
    </ptk:OrderStatusResponse>
  </ptk:Request>
</ptk:PrintTalk>
```

## A.5 ReturnJob

```
<ptk:PrintTalk Timestamp="2018-08-23T09:28:00+02:00" xmlns:ptk="http://www.print-talk.org/sche-
ma_20"
  xmlns:xjdf="www.CIP4.org/JDFSche-
ma_2_0">
  <ptk:Header>
    <ptk:From>
      <ptk:Credential domain="xjdf:URL">https://w.example.org/XJDF</ptk:Credential>
    </ptk:From>
    <ptk:To>
      <ptk:Credential domain="xjdf:URL">https://m.example.org/XJDF</ptk:Credential>
    </ptk:To>
  </ptk:Header>
  <ptk:Request BusinessID="B-xx" BusinessRefID="B-42">
    <ptk:ReturnJob>
      <xjdf:XJDF ICSVersions="CusEP_L1-2.0" JobID="JOB-22" Types="Product">
        <xjdf:AuditPool>
          <xjdf:AuditResource>
            <xjdf:Header DeviceID="MIS_ID" Time="2018-08-23T09:28:00+02:00"/>
            <xjdf:ResourceInfo>
              <xjdf:DeliveryParams Required="2018-08-28T16:00:00+02:00"
                Method="StandardShipping" TrackingID="1Z999AA10123456784"/>
            </xjdf:ResourceInfo>
          </xjdf:AuditResource>
        </xjdf:AuditPool>
      </xjdf:XJDF>
    </ptk:ReturnJob>
  </ptk:Request>
</ptk: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>
[ISO4217:2001]	<p>ISO 4217:2001</p> <p>Codes for the representation of currencies and funds</p> <p>Date: 2001</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 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>
[RFC6750]	<p>RFC 6750</p> <p>The OAuth 2.0 Authorization Framework: Bearer Token Usage.</p> <p>Date: October 2012</p> <p>Produced by: Internet Engineering Task Force (IETF), Network Working Group</p> <p>Available at: <a href="http://www.rfc-editor.org/rfcsearch.html">http://www.rfc-editor.org/rfcsearch.html</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>







