

Mapping of IPP Attributes to JDF/1.1 Product Intent and Process Resources **(Non-color/imaging attrs = Hidden text)**

Green highlighted text like this means the JDF extension has been edited into a copy of JDF/1.1a for review

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Abstract

This document lists the subset of JDF/1.1 (plus extensions for JDF/1.2) for the Digital Printing Interoperability Conformance Specification (ICS). The ICS will contain both an Intent Interface subset and a Digital Printing combined process subset. To obtain a reasonable JDF/1.1 subset, this document maps IPP 1.1 Job Creation attributes and extensions to JDF 1.1 Product Intent, JDF 1.1 Digital Printing combined process, JDF 1.0 IDPrinting process, Job Ticket API (JTAPI), the Common Unix Printing System (CUPS), and the PODi PPML Job Ticket. A percentage of IPP covered by each of these other printing semantics is included. Finally, each IPP attribute is also described briefly with references to the detailed descriptions. **ISSUES needing action and proposed JDF extensions are highlighted like this.** Proposed extensions are also copied from Table 2 to Table 3.

Status of this document:

This is an intermediate/rough working document, not a final edition.

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1 Mapping of IPP attributes

Table 2 lists all of the IPP Job attributes that a client can supply or a Printer can return in Job Creation operations. [The following Table 1 is the legend that](#) explains the columns in Table 2:

Table 1 - Legend for the columns in Table 2

Column heading	Totals	% IPP ¹	Description
IPP Attribute Name	251 ² = 209 + 42 (S)	100	The name of the IPP attribute or collection member attribute. <ul style="list-style-type: none"> (S) - Status Set by System. The IPP attribute that represents Status that is Set by the System, such as the “job-state” and “number-of-intervening-jobs” attributes, and cannot be supplied by the client in a Job Creation request. (M) - Multiple-document-handling affects semantics. The attribute whose effect depends on the "multiple-document-handling" attribute to specify whether the Input Document in multi-document jobs are combined into a single Output Document or are kept as separate Output Documents. (Mn) - Multiple-document-handling affects page numbering only. The attribute in which “multiple-document-handling” only affects whether the page numbers in the attribute are a single sequence 1:n for the concatenated documents or are separate sequences of 1:n, one for each document. If an IPP attribute does not exist for a certain feature/function then a brief description of the feature/function will. <u>Styles used: Member attribute names (members of collection attributes) (style: Normal Mem) and attribute values are indented (style: Normal Val). Double indenting for nested member attributes (style: Normal Mem1) and member attribute values (style: Normal Val1).</u>
<u>P</u> (Priority)	<u>H</u> (High) = 94 <u>M</u> (Medium) = 19 <u>L</u> (Low) = 62 <u>N</u> (Never) = 45	37% 8% 25% 18%	The priority in which to include the feature/function in the definition of a job ticket for digital printing: <ul style="list-style-type: none"> <u>H</u> (High) - It is imperative that the feature/function be included in the initial version of the job ticket for digital printing if the job ticket is to be useful. <u>M</u> (Medium) - The feature/function should be one of the first to be considered for the next version of the job ticket for digital printing. <u>We will still review proposed JDF extensions for JDF/1.2 for these.</u> <u>L</u> (Low) - The feature/function can be included in a later version of the job ticket for digital printing. <u>We won't review JDF extensions for JDF/1.2.</u> <u>N</u> (Never) - The feature/function will not be included in any version of the job ticket for digital printing. <u>We won't review JDF extensions for JDF/1.2.</u>
JDF 1.1 Product Intent	90 (including 27 new proposed)	36%	The JDF 1.1 Product Intent Resource and JDF attribute using a subset of the XPath [xpath] notation. The following subset of the XPath expression notation is used to specify a JDF element or attribute: The JDF element or attribute usually occurs inside a JDF resource. Start the XPath expression at the resource level and show all the child relationships down to the element or attribute we are mapping to, qualified with predicates as needed. A parent-child relationship is represented with '/'. An element name is just the unadorned element name. An attribute name is prefixed with '@'. Example: RunList/LayoutElement/FileSpec/@URL is the URL attribute of the FileSpec resource element in the LayoutElement resource element in the RunList resource. A predicate is enclosed in '['. So the meaning of: IDPrintingParams/JobSheet/Comment[@Name="job-recipient-name"] is the text field of the Comment element in the JobSheet resource element in the

¹ The % of IPP is the percent of the (last counted in version 0.94, November 29, 2002) IPP attributes, including collection member attributes, that can be supplied in a Job Creation operation request.

² The total of IPP attributes (last counted in version 0.94, November 29, 2002) includes counting the member attributes of the collection attributes.

Column heading	Totals	% IPP ¹	Description
			<p>IDPrintingParams resource element when the value of the Name attribute in the Comment element is “job-recipient-name”. For example, ComponentLink[@ProcessUsage=“Good”]/@Amount is the Amount attribute of the ComponentLink element whose ProcessUsage attribute is set to “Good”. (ComponentLink is a ResourceLink, not a Resource, so it’s one of the unusual cases where we are not mapping into a resource.)</p> <ul style="list-style-type: none"> Unknown - Indicates that it has not yet been determined if a JDF Intent resource/attribute currently exists for the feature/function. This will be the case for most of the features/functions with a Priority of Medium or Low. N/A - It is not necessary that this feature/function be represented by a JDF Intent resource/attribute. This will be the case for the features/functions with a Priority of Never. (P) - Process. Appears along with N/A. The feature/function <u>is part of the Intent Interface (what a Customer puts into a JDF ticket to give to a Print Shop) to be specified by the ICS but will not be</u> does not currently have a defined as using JDF/1.1a Product Intent. <u>Instead, this feature will be represented in the JDF Intent subset using the corresponding Process resource attached to the Product Intent node, thereby avoiding adding duplicative syntax to JDF and facilitating the mapping from the Intent subset to the DigitalPrinting combined process representation. In a future release if the feature/function is to be specified then a JDF Combined Process Node that contains the Process Resource will appear under the JDF Product Node.</u> (S) - Same. The feature/function has the same semantics in the JDF 1.1 Product Intent and JDF 1.1 Process Resource. (N) - Needed New. The JDF for the feature/function is not currently defined in the JDF 1.1 spec and needs to be added. <p><u>JDF attribute values are italicized as in [JDF] and are not indented or single quoted.</u></p>
JDF 1.1 Process Resource	174 (including 22 new proposed)	69%	<p>The JDF 1.1 Process on the first line (or several Processes separated by commas, if more than one Processes uses the Resource), followed by the Resource, and JDF attribute using XPath notation (see explanation of XPath subset in the explanation above.)</p> <ul style="list-style-type: none"> Unknown - Indicates that it has not yet been determined if a JDF Process resource/attribute currently exists for the feature/function. This will be the case for most of the features/functions with a Priority of Medium or Low. N/A - It is not necessary that this feature/function be represented by a JDF Process resource/attribute. This will be the case for the features/functions with a Priority of Never. (S) - Same. The feature/function has the same semantics in the JDF 1.1 Product Intent and JDF 1.1 Process Resource. (N) - Needed New. The JDF for the feature/function is not currently defined in the JDF 1.1 spec and needs to be added. <p><u>JDF attribute values are italicized as in [JDF] and are not indented or single quoted.</u></p>
OSDP JDF Spec	69	27%	<p>Whether or not the feature is in the “JDF Specification for Open Source Digital Printing” from Claudia Alimpich, version 1.2 [OSDP] and if it is what the feature/function is called in the JDF Spec for OSDP.</p> <ul style="list-style-type: none"> No - The feature/function is not currently in the JDF Spec for OSDP. (X) - The feature/function is either currently included in the JDF Spec for OSDP or needs to be added.
JTAPI	1.0 = 90 x.x = 121	36% 48%	<p>The version of JTAPI that the feature/function will be included in and the name of the JTAPI attribute.</p> <ul style="list-style-type: none"> 1.0 - The feature/function will be included in version 1.0 of the JTAPI. x.x - The feature/function is to be included in a future (currently undefined) release of the JTAPI. Never - The feature/function will never be included in the JTAPI. <p><u>Styles used: Normal JT attr - hanging indent 0.2 inches.</u></p>
CUPS	113 = 90 + 23 (S)	45%	<p>The version of the Common Unix Printing System (CUPS) in which the IPP attribute is supported or No if the IPP attribute is not supported in any version of CUPS. See “(S)” explained above.</p>
JDF APP F	89	35%	<p>Whether or not the Appendix mapped the IPP attribute to JDF 1.0 IDPrinting combined process node</p> <ul style="list-style-type: none"> Yes - The IPP attribute was mapped from the IDPrinting process node in JDF 1.0. No - The IPP attribute was not mapped from the IDPrinting process node in JDF 1.0.
PODi	1.1 = 20 EFI = 63	8% 25	<p>Where the feature/function is included:</p> <ul style="list-style-type: none"> 1.1 - The feature/function is currently included in the PODi PPML Job Ticket Specification Version 1.1. EFI - The feature/function is included in the “EFI Job Ticket Proposal” document.
Cat <u>(Category)</u>	1 = 8 2 = 5	3% 2%	<p>The category that the feature/function belongs to. The possible categories are:</p> <ul style="list-style-type: none"> 1 - Customer and billing info 2 - Delivery of finished product - due date and shipping instructions, proofing approvals

Column heading	Totals	% IPP ¹	Description
	3 = 11 4 = 4 5 = 29 6 = 26 7 = 27 8 = 29 9 = 2 10 = 22 11 = 2 <u>C</u>	4% 2% 12% 10% 11% 12% 1% 9% 1%	<ul style="list-style-type: none"> 3 - Files being submitted to the shop - whatever info is necessary for an automated system to do the job 4 - What to print - how many, subset of files 5 - Media to use 6 - RIPping parameters - generating images 7 - Assembling printable images from source-file pages onto a sheet 8 - Assembling sets of sheets and finishing instructions 9 - Equipment to use 10 - General comments, instructions, messages, and information 11 - Proofing C - indicates a color or imaging attribute and is orthogonal to the numeric categories.
IPP Attribute Description			<p>The IPP attribute name, the attribute syntax (data type) in parentheses with a size constraint for strings and integers, a code indicating the IPP object, followed by a brief description of the IPP attribute and what IPP document it is defined in (see References section 6). WARNING: Do not attempt to implement from these brief descriptions. You MUST refer to each cited reference. For example, <u>the IPP coordinate system is defined so</u> the terms left, top, right, and bottom in attribute values and descriptions mean as if the document were portrait, i.e., left means the y-axis which is always the long edge and bottom means the x-axis which is always the short edge.</p> <p>In order to save space, some of the closely related attribute names indicate several alternative fields inside {} and separated by . For example: halftone-{graphics images text}</p> <p>Legend for codes in square brackets:</p> <p>JD - Job Description attribute - initial value supplied by the client (in an Operation attribute of a Job Creation operation).</p> <p>JT - Job Template³ attribute - supplied by the client in a Job Creation operation.</p> <p>DD - Document Description attribute (see [doc-obj]) - initial value supplied by the client (in a Operation attribute of a Document Creation operation).</p> <p>DT - Document Template attribute - supplied by the client in a Document Creation operation.</p> <p>PO - Page Override attribute - this attribute MAY also be supplied in a "page-overrides" attribute to affect ranges of pages.</p> <p>JS - Job Status attribute - set by the Printer, client cannot supply (<u>returned by the Printer in a Job object query or Operation attribute</u>). Also indicated by "(S)" in the "IPP Attribute Name" column.</p> <p>DS - Document Status attribute - set by the Printer, client cannot supply (<u>returned by the Printer in a Document object query or Operation attribute</u>). Also indicated by "(S)" in the "IPP Attribute Name" column.</p> <p>- - indicates that there is no corresponding Job Status attribute or Document Status attribute.</p> <p>In attribute names [job-] indicates that the 'job-' prefix is kept for the IPP Job Status attribute name but is dropped for the corresponding IPP Document Status attribute name. A single description serves for both using "Job/Document" to indicate that the description applies to both the Job Status and the Document Status attribute. The entry in Table 2 uses the form of the name with the 'job-', since that form is the one in [RFC2911].</p> <p><u>Styles used: IPP attribute values are bracketed with a single quote (') and indented (style: Normal Val). Member attributes are put in separate rows with no indentation (style: Normal), so that they line up with other entries in other columns.</u></p>

³ In IPP, there are many attributes that are labeled as both Job Template (JT) and the new Document Template (DT). However, In the PWG Semantic Model [pwg-sm], an attribute is labeled either a Job Processing attribute or a Document Processing attribute, but is never labeled as both. Therefore, IPP attributes labeled with just JT map to PWG Job Processing attributes and IPP attributes labeled with either just DT or both JT and DT map to PWG Document Processing attributes.

Table 2 - IPP Attribute Mapping Table

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
							Note: Specific attributes need to be added here. Should there be a Contact object added to JTAPI?			
adjust-{cyan-red magenta-green yellow-blue}	M H		C	<p>Add ColorCorrectionParams to ColorIntent (N)</p> <p>ColorIntent/ColorCorrectionParams</p> <p>@AdjustCyanRed</p> <p>@AdjustMagentaGreen</p> <p>@AdjustYellowBlue (Integer (-100:100)) (N) (S)</p> <p>Add integer knob for Print Shop Customers who need quick and dirty last-minute fixes. Use abstract ICC profiles (P or N?). We need to provide a way for the customer to specify a hue adjustment through supplying an abstract profile⁴.</p>	<p>ColorCorrection ColorCorrectionParams /FileSpec{@ResourceUsage="AbstractProfile"} (N)</p> <p>Add this new file-spec to allow specification of preferential color adjustment.</p> <p>@AdjustCyanRed</p> <p>@AdjustMagentaGreen</p> <p>@AdjustYellowBlue (Integer (-100:100)) (N) (S)</p> <p>Add integer knob for Job Submitters who need quick and dirty last-minute fixes.</p>				<p>adjust-{cyan-red magenta-green yellow-blue} (integer(-100:100)) [JT, DT, PO] Increase or decrease the color along the Cyan/Red, Magenta/Green/ or Yellow/Blue axes while maintaining lightness <u>after applying the Source Profile before output color rendering applied at an implementation dependent point in the processing after each source profile is applied and is color space dependent.</u> [color&img] §3.2.1</p> <p>ISSUE: Can we define a standard transform between integer values to ICC Abstract Profile for various color spaces? But not for JDF/1.2.</p>	TBD
adjust-contrast	M H ?	EFI Image Quality – Contrast	6 C	<p>Add ColorCorrectionParams to ColorIntent (N)</p> <p>ColorIntent/ColorCorrectionParams</p> <p>@AdjustContrast (Integer (-100:100)) (N) (S)</p> <p>(P or N?) We need to provide a</p>	<p>ColorCorrection ColorCorrectionParams /FileSpec{@ResourceUsage="AbstractProfile"} @AdjustContrast (Integer (-100:100)) (N) (S)</p> <p>Add this new file-spec to allow specification of preferential color adjustment.</p>	No (X)			<p>adjust-contrast (integer(-100:100)) [JT, DT, PO] Increase or decrease contrast after applying the Source Profile before output color rendering. [color&img] §3.2.2</p>	TBD

⁴ For example, a customer might use a Photoshop plug-in to generate an abstract profile, after viewing the job color objects through a softproofing image path.

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				way for the customer to specify a contrast adjustment through supplying an abstract profile.						
adjust-hue	M		C	Add ColorCorrectionParams to ColorIntent (N) ColorIntent/ColorCorrectionParams @AdjustHue (Integer (-180;180)) (N) (S)	ColorCorrectionColorCorrectionParams / @AdjustHue (Integer (-180;180)) (N) (S) apply to all kinds of objects			1.2	New IPP attribute: adjust-hue (integer(-180:180)) [JT, DT, PO] Increase or decrease hue by the specified number of degrees of the color circle after applying the Source Profile before output color rendering. Mostly useful for synthetic color or single color pages or graphics. What about applying only to graphics? proposed to be added to [color&img].	
adjust-lightness	M H ?	EFI Image Quality – Brightness	6 C	Add ColorCorrectionParams to ColorIntent (N) ColorIntent/ColorCorrectionParams @AdjustLightness (Integer (-100;100)) (N) (S) (P or N?) We need to provide a way for the customer to specify a lightness adjustment through supplying an abstract profile.	ColorCorrectionColorCorrectionParams / @AdjustLightness (Integer (-100;100)) (N) (S) ColorCorrectionColorCorrectionParams /FileSpec[@ResourceUsage="AbstractProfile"] (N) Add this new file spec to allow specification of preferential color adjustment.	No (X)			adjust-lightness (integer(-100:100)) [JT, DT, PO] Increase or decrease color lightness after applying the Source Profile before output color rendering. [color&img] §3.2.3	TBD
Abstract Profile for preference adjustment	M		C	Add ColorCorrectionParams to ColorIntent (N) ColorIntent/ColorCorrectionParams FileSpec [@ResourceUsage="AbstractProfile"] (N) Add this new file spec to allow specification	ColorCorrectionColorCorrectionParams / FileSpec [@ResourceUsage="AbstractProfile"] (N) (S) Add this new file spec to allow specification of preferential color adjustment.				Proposed new IPP attribute: adjust-profile (uri) [JT, DT, PO] Identifies the Abstract Profile (by URI) for preference adjustment that the Printer MUST fetch and apply after applying the Source Profile before output color rendering, i.e., PCS to PCS'. PDL Objects that are already encoded in final device code values (e.g., actual Device CMYK) MUST NOT be affected.	

⁵ For example, a customer might use a Photoshop plug-in to generate an abstract profile, after viewing the job color objects through a softproofing image path.

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				of preferential color adjustment (N) (S) ⁵					Both the Abstract Profile and the adjustment knobs (integers) can be supplied and applied by the Printer. One important use of this attribute would be for viewing environment adaptations and white point adjustment. Propose to IPP WG for addition to IPP.	
adjust-saturation	M H		C	Add: ColorCorrectionParams to ColorIntent (N) ColorIntent/ColorCorrectionParams; @AdjustSaturation (integer (-100:100)) (N) (S) We need to provide a way for the customer to specify a saturation adjustment through supplying an abstract profile.	ColorCorrection ColorCorrectionParams / @AdjustSaturation (integer(-100:100)) (N) (S) FileSpec[@ResourceUsage="AbstractProfile"] (N) Add this new file-spec to allow specification of preferential color adjustment.				adjust-saturation (integer(-100:100)) [JT, DT, PO] Increase or decrease the color saturation after applying the Source Profile before output color rendering. [color&img] §3.2.4	TBD
anti-aliasing	M	EFI Image Quality — Sharpness (Anti-aliasing)	6 C	Unknown?? ISSUE: Should we do intent anti-aliasing with Process or add an AntiAliasing attribute to some Intent Resource? Which one?(P)	Rendering RenderingParams/ ObjectResolution/ @AntiAliasing (N) new attribute with list of possible values "None" "SystemSpecified"	No (X)			anti-aliasing (type3 keyword) [JT, DT, PO] Indicates the anti-aliasing algorithm that the Printer object MUST apply to the rendered output images. Values are: none, standard (meaning system specified). [color&img] §4.1	TBD
'none'	M				None				'none'	
'standard'	M				SystemSpecified - the Default ISSUE: OK that SystemSpecified is the default value?				'standard'	
Approvals for proof	H	EFI Approvals	2 4 4	ProofingIntent/ ApprovalParams/ ApprovalPerson/Contact/@... (N) (S)	Approval ApprovalParams/ApprovalPerson/Contact/@... (S)	No (X)	x-x		No IPP attribute See "proof-print-contact" member attribute in "proof-print" (collection) below.	
black-overprint	H	1.1 Black Overprint	6 C	(N) Designer may specify "Rich Black"	Rendering RenderingParams/	Black Overprint (X)			black-overprint (type2 keyword) [JT, DT, PO] Turn black overprint on color	RenderingParams/ AutomatedOverprin

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				<p>which is black-overprint on. Add SeparationControlParams to ColorIntent (N)</p> <p>ColorIntent/ SeparationControlParams AutomatedOverprintParams/ @OverPrintBlackText @OverPrintBlackLineArt (N) (S)</p>	<p>AutomatedOverprintParams/ @OverPrintBlackText @OverPrintBlackLineArt</p> <p>No mapping for IPP 'black-overprint-off' value. OR</p> <p>Separation SeparationControlParams/ AutomatedOverprintParams/ @OverPrintBlackText @OverPrintBlackLineArt (S)</p>				<p>background on or off. For the 'black-overprint-on' value the Printer MUST place black toner on top of color toner. For the 'black-overprint-off' value the Printer MUST knock out the color background, so that the black toner is not placed on top of color toner. For the 'black-overprint-pdl' value the Printer MUST use the overprint specified in the PDL document content. Values: black-overprint-on, black-overprint-off.[color&img] §3.33</p>	<p>tParams/ @OverPrintBlackText RenderingParams/ AutomatedOverprintParams/ @OverPrintBlackLineArt</p>
'black-overprint-off'	N			N/A	N/A				'black-overprint-off'	
'black-overprint-on'	H			true	true				'black-overprint-on'	
'black-overprint-pdl'	H			false	false				black-overprint-pdl	
color-depth-yyy	L		C	N/A	<p>Rendering RenderingParams/@ColorantDepth Note: In order to control the ColorantDepth by colorant, partition with PartIDKeys="Separation" and specify a separate color for each partition. ISSUE: Is partitioning with PartIDKeys="Separation" the way to specify different color depths for different colors?</p>				<p>color-depth-yyy (integer(2:MAX)) [JT, DT, PO] Specifies the color depth (bits per pixel) that the Printer MUST use for colorant "yyy" depending on the colorants supported by the Printer. Values of "yyy" include: black, cyan, magenta, yellow, red, green, blue, cardinal, royal, ruby, violet, and brown. [color&img] §3.4</p>	
color-destination-profile-back	H		C	<p>Print shop customers needs to be able to specify Add ColorSpaceConversionParams to ColorIntent (N)</p>	<p>ColorCorrection ColorCorrectionParams / FileSpec [FileSpecLink/ [@ResourceUsage="FinalTargetDevice"] (N)</p>				<p>color-destination-profile-back (type3 keyword name(MAX)) [JT, DT, PO] Specifies the Destination Color Space Profile that the Printer is to use for the back side of the output media. [color&img] §3.5.1</p>	<p>ColorSpaceConversionParams/ FileSpec [@ResourceUsage="FinalTargetDevice"]</p>

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				<p><u>ColorIntent/ColorSpaceConversionParams/FileSpec</u> [<u>@ResourceUsage="FinalTargetDevice"</u>] (S)</p> <p><u>Note: Partition with PartIDKeys="Side" to get different Profiles for front and back of sheets.</u></p>	<p><u>or</u></p> <p>ColorSpaceConversion, Proofing, SoftProofing ColorSpaceConversion Params/ FileSpec/ <u>FileSpecLink/</u> [<u>@ResourceUsage="FinalTargetDevice"</u>] (S)</p> <p><u>ISSUE: Do we really need the ColorSpaceConversion for our mapping and subset for use with the DigitalPrinting process too?</u></p> <p><u>Note: Partition with PartIDKeys="Side" to get different Profiles for front and back of sheets.</u></p> <p><u>ISSUE: What is the difference between ColorCorrection and ColorSpaceConversion ?</u></p> <p><u>ISSUE: Do we need to specify both in the ICS?</u></p> <p><u>ISSUE: Can both processes be used with FinalTargetDevice in the same Job Ticket?</u></p>					
'system-specified'									'system-specified'	
<i>any name</i>									<i>any name</i>	
color-destination-profile-front	H		C	<p><u>Print shop customers needs to be able to specify</u></p> <p><u>Add ColorSpaceConversionParams to ColorIntent (N)</u></p>	<p>ColorCorrection ColorCorrectionParams / FileSpec <u>FileSpecLink/</u> [<u>@ResourceUsage="FinalTargetDevice"</u>] (N)</p>				<p>color-destination-profile-front (type3 keyword name(MAX)) [JT, DT, PO] Specifies the Destination Color Space Profile that the Printer is to use for the front side of the output media. [color&img] §3.5.2</p>	<p>ColorSpaceConversionParams/ FileSpec [<u>@ResourceUsage="FinalTargetDevice"</u>]</p>

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CUPS	IPP Attribute Description	JDF/1.0 IDPrinting
				<p><u>ColorIntent/ColorSpaceConversionParams/FileSpec</u> [<u>@ResourceUsage="FinalTargetDevice"</u>] (S)</p> <p><u>Note: Partition with PartIDKeys="Side" to get different Profiles for front and back of sheets.</u></p>	<p><u>or</u></p> <p>ColorSpaceConversion, Proofing, SoftProofing ColorSpaceConversion Params/ FileSpec [<u>FileSpecLink/</u> [<u>@ResourceUsage="FinalTargetDevice"</u>] (N) (S)</p> <p><u>Note: Partition with PartIDKeys="Side" to get different Profiles for front and back of sheets.</u></p>					
'system-specified'									'system-specified'	
<i>any name</i>									<i>any name</i>	
color-effects-type	H	1.1 Color Mode EFI Color – Color Mode	6 C	ColorIntent/ @ColorStandard (S)	DigitalPrinting, ColorSpaceConversion ColorantControl/ @ProcessColorModel (S)	Process Color Model (X)			color-effects-type (type2 keyword) [JT, DT, PO] Indicates whether the Printer is to render a color document in full color or using an algorithm that maps the full range of colors to alternate values, such as gray scale or monochrome. [color&img] §3.6	ColorantControl/ @ProcessColorModel
'monochrome-grayscale'				<u>Monochrome</u> <u>ISSUE: Use color depth to distinguish between monochrome and gray scale or add GrayScale?</u>	<u>DeviceGray</u>				'monochrome-grayscale'	
'color'				<u>CMYK</u> <u>What does Consumer of JDF assume if ColorIntent resource is omitted? Does the Print Shop have to interrogate the PDL?</u>	<u>DeviceCMYK</u>				'color'	
color-emulation	H		C	ColorIntent/ @ColorStandard <u>AND/OR</u> <u>Add</u> <u>ColorSpaceConversion</u>	<u>DigitalPrinting</u> <u>Ink/</u> <u>@Family</u> <u>OR should we use:</u> <u>ColorIntent/</u> <u>@ColorStandard</u>			color-emulation (type3 keyword name (MAX)) [JT, DT, PO] Causes the Printer to emulate the output of a different color-printing device. [color&img] §3.7	IDPrinting Ink/@Family ColorSpaceConversion, Proofing, SoftProofing ColorSpaceConversion	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				<p><u>onParams to ColorIntent (N)</u></p> <p>ColorIntent/ ColorSpaceConversionParams/ FileSpec [@ResourceUsage="EmulationProfile"] (N)(S)</p> <p>If both supplied, the Profile gives the details of the ColorStandard value.</p>	<p>ISSUE: Which one of the above are we going to pick for the ICS?</p> <p>AND/OR be used in combination with:</p> <p>ColorSpaceConversion, Proofing, SoftProofing ColorSpaceConversionParams/ FileSpec [FileSpecLink/ [@ResourceUsage="EmulationProfile"] (N)</p>				<p>rsionParams/ FileSpec/ [@ResourceUsage="EmulationProfile"] (N) Specify new values for @ResourceUsage = "EmulationProfile"</p>	
'none'				<p>Values of ColorStandard: CMYK</p>	<p>ISSUE: Specify new values for @ResourceUsage = "EmulationProfile" (N)</p> <p>TBD</p>				'none'	
'swop'				<p>SWOP</p>	TBD				'swop'	
'euroscale'				<p>FOGRA-coated?? (N)</p>	TBD				'euroscale'	
'japan-color'				<p>Japan-coated?? (N)</p>	TBD				'japan-color'	
'enhanced-swop'				<p>GRACOL</p>	TBD				'enhanced-swop'	
'euroscale-matte'				<p>FOGRA-matte?? (N)</p>	TBD				'euroscale-matte'	
'euroscale-uncoated'				<p>FOGRA-uncoated?? (N)</p>	TBD				'euroscale-uncoated'	
							use document object' document-format			
							use document object's document-output-pages			
							see corresponding			

⁶ At a minimum the "none" value for compression must be supported.

⁷ The IPP "copies" attribute is an *extensive* attribute, so its effect when supplied at the job level is not always inherited by the documents in a multi-document job. Instead, its effect depends on the value of the "multiple-document-handling" Job Template attribute. The 'single-document' and 'single-document-new-sheet' values produce copies of the job as a whole with the multiple input documents concatenated into a single output document for each job copy. The 'separate-document-uncollated-copies' value produce N copies of the first input document followed by N copies of the second input document, etc. The 'separate-document-collated-copies' produce N successive job copies, each job copy consisting of 1 copy of the first document followed by 1 copy of the second document, etc. In the PWG Semantic Model [pwg-sm] there are two separate attributes: JobCopies and Copies which affect the job as a whole and individual documents, respectively, so that the MultipleDocumentHandling is no longer needed.

⁸ The "cover-back" and "cover-front" Job Template attributes are affected by the value of "multiple-document-handling" which controls whether a multi-document job is producing a single Output Document or separate Output Documents.

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
							document (DT) attribute			
edge to edge printing	H		C	LayoutIntent/ @NonPrintableMargins (N) (NumberList)	DigitalPrinting DigitalPrintingParams/ @NonPrintableMargins (N) (rectangleNumberList) NumberList size of non-printable margin in points, OK? ISSUE: Or should NonPrintableMargins be added to RenderingParams instead?		1.0 job-edge-to-edge		ISSUE: Change IPP name from bleed-edge-printing to: edge-to-edge (type2 keyword) [JT, DT, PO] Indicates whether or not the printer should allow page image data to be printed to all edges of the paper, and print beyond the edges of the normal printable area. [color&img] §4.2	
'none'	H				omit from ticket				'none'	
'all'	H				"0 0 0 0"				'all'	
halftone-{graphics images text}	H	1.1 Screen EFI Image Quality – Screening	6 C	(P-or-N?) We need to provide a means for the customer to specify the halftone "look" – often the halftone used is a visible attribute of the finished piece. Define a new Intent Resource so that a span of numeric values can be specified. ScreeningIntent/ ScreenIntentSelector/	Screening ScreeningParams/ ScreenSelector/ @DotSize @Frequency @ScreeningFamily @ScreeningType @SourceObjects Rendering RenderingParams/ ObjectResolution/ @Resolution @SourceObjects Rendering	Screening (X) Family			halftone-{graphics images text} (type2 keyword name(MAX)) [JT, DT, PO] Specify the halftone screens to be used by the Printer to render graphics, image, and text objects, respectively, within color or black and white documents. Screens are implementation-specific with different line frequencies, angles, and spot functions implied by each keyword value. <u>Numeric keyword values are approximate, i.e., nominal values.</u> [color&img] §4.3, 4.4, 4.5.	

⁹ The IPP "finishings" and "finishings-col" attributes are *extensive* attributes, so their effect when supplied at the job level is not always inherited by the documents in a multi-document job. Instead, their effect depends on the value of the "multiple-document-handling" Job Template attribute. The 'single-document' and 'single-document-new-sheet' cause the finishing to be applied to each job copy as a whole. The 'separate-documents-collated-copies' and 'separate-document-uncollated-copies' values cause the finishing to be applied to each document. In the PWG Semantic Model [pwg-sm] there are two separate attributes: JobFinishings and Finishings and also JobFinishingsCol and FinishingsCol which affect the job as a whole and individual documents, respectively, so that the MultipleDocumentHandling attribute is no longer needed.

¹⁰ The "finishings" = 'booklet-fold-staple' is the same as 'booklet-maker', but without trimming.

¹¹ Only support specific folding catalogs (e.g z-fold, saddle-fold, etc.)

¹² The effect of the IPP "force-front-side" attribute when supplied at the job level of a multi-document job depends on the value of the "multiple-document-handling" Job Template attribute. For the 'single-document' and 'single-document-new-sheet' values, the pages are numbered as a single set from 1 to n for the job as a whole. For the 'separate-documents-collated-copies' and 'separate-document-uncollated-copies' values, the pages are numbered from 1 to n for each document separately.

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CUPS	IPP Attribute Description	JDF/1.0 IDPrinting
				<p>@AMLineFrequency Span ? @FMMacroDotsPerIn chSpan ? @ScreeningFamilySp an (Name, Low Medium, High) @ScreeningType ? (AM,FM,adaptive, system defined) @SourceObjects @SpotFunctionSpan ?</p>	<p>RenderingParams/ ObjectResolution/ @Resolution</p> <p>Proofing, SoftProofing ProofingParams/ @Resolution</p> <p>PreviewGeneration PreviewGenerationPara ms/ @Resolution;</p> <p>Preflight PSToPDFConversionP arams/ @InitialResolution</p>					
				ISSUE: how say none?	ISSUE: how say none?				none	
				ScreeningType = FM ScreeningFamilySpa n=LowestFrequency	ScreeningType = FM ScreeningFamily=Low estFrequency				low-frequency-dot	
				ScreeningType = FM ScreeningFamilySpa n=MiddleFrequency	ScreeningType = FM ScreeningFamily=Mid dleFrequency				mid-frequency-dot	
				ScreeningType = FM ScreeningFamilySpa n=HighestFrequenc y	ScreeningType = FM ScreeningFamily=High estFrequency				high-frequency-dot	
				N/A	N/A				highest-frequency-dot	
				ScreeningType = AM ScreeningFamilySpa n=LowestFrequency	ScreeningType = AM LowestFrequency				low-frequency-line	
				ScreeningType = AM ScreeningFamilySpa n=MiddleFrequency	ScreeningType = AM MiddleFrequency				mid-frequency-line	
				N/A	N/A				high-frequency-line	
				ScreeningType = AM ScreeningFamilySpa n=HighestFrequenc y	ScreeningType = AM HighestFrequency				highest-frequency-line	
				ScreeningType = FM FMMacroDotsPerIn chSpan= 138~162	ScreeningType = FM DotSize = 2540/150 = 16.9				150-dpi	
				ScreeningType = FM	ScreeningType = FM				175-dpi	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				<u>AMLineFrequencySpan=163-187</u>	<u>DotSize = 2540/175 = 14.5</u>					
				<u>ScreeningType = FM</u> <u>AMLineFrequencySpan=188-212</u>	<u>ScreeningType = FM</u> <u>DotSize = 2540/200 = 16.9</u>				200-dpi	
				<u>ScreeningType = AM</u> <u>FMMacroDotsPerInc</u> <u>hSpan= 150-249</u>	<u>ScreeningType = AM</u> <u>Frequency = 200</u>				200-lpi	
				<u>ScreeningType = AM</u> <u>FMMacroDotsPerInc</u> <u>hSpan= 250-349</u>	<u>ScreeningType = AM</u> <u>Frequency = 300</u>				300-lpi	
				<u>ScreeningType = AM</u> <u>FMMacroDotsPerInc</u> <u>hSpan= 550-649</u>	<u>ScreeningType = AM</u> <u>Frequency = 600</u>				600-lpi	
				<u>ScreeningType = FM</u> <u>FMMacroDotsPerInc</u> <u>hSpan= nnn-ooo</u>	<u>ScreeningType = FM</u> <u>DotSize = nnn</u>				Other n-dpi and n-lpi values are possible.	
				<u>ScreeningType = AM</u> <u>FMMacroDotsPerInc</u> <u>hSpan= nnn-ooo</u>	<u>ScreeningType = AM</u> <u>Frequency = nnn</u>				<u>Other n-n-lpi values are possible.</u>	
highlight-colorant	<u>M</u> <u>H</u>		<u>C</u>	ColorIntent/ <u>ColorPool/</u> <u>Color/</u> <u>@ColorName</u> <u>(S)</u> <u>ColorUsed/</u> <u>@SeparationSpec</u> <u>ISSUE: Add new</u> <u>values to Appendix</u> <u>A.2.8</u>	DigitalPrinting Ink/ @Family @InkName or Ink/ @ColorName and ColorPool/ Color/ @ColorName <u>(S)</u> <u>ISSUE: Add new</u> <u>values to Appendix</u> <u>A.2.8</u>				highlight-colorant (type3 keyword name(MAX)) [JT, DT, PO] Specifies the color of the toner that the Printer MUST use as the highlight color when printing the document in highlight color mode. [color&img] §3.8 <u>ISSUE: Add JDF values to IPP.</u>	
				<u>Values of Color/</u> <u>@ColorName:</u> <u>NoColor</u>	<u>Values of Color/</u> <u>@ColorName:</u> <u>NoColor</u>				none	
				<u>N/A ??</u>	<u>N/A ??</u>				other	
				<u>Black</u>	Black				black	
				<u>Blue</u>	Blue				blue	
				<u>Brown</u>	Brown				brown	
				<u>Buff</u>	Buff				<u>buff</u>	
				<u>Gold</u>	Gold				<u>gold</u>	
				<u>Cardinal</u>	<u>Cardinal</u>				cardinal	
				<u>Cyan</u>	<u>Cyan</u>				cyan	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				<u>Goldenrod</u>	Goldenrod				goldenrod	
				<u>Gray</u>	Gray				gray	
				<u>Magenta</u>	Magenta				magenta	
				<u>Green</u>	Green				green	
				<u>Ivory</u>	Ivory				ivory	
				<u>MultiColor</u> <u>New in JDF 1.1</u>	MultiColor New in JDF 1.1				multicolor	
				<u>Mustard</u> <u>New in JDF 1.1</u>	Mustard New in JDF 1.1				mustard	
				<u>Orange</u>	Orange				orange	
				<u>Pink</u>	Pink				pink	
				<u>Red</u>	Red				red	
				<u>Royal</u>	Royal				royal	
				<u>Ruby</u>	Ruby				ruby	
				<u>Silver</u>	Silver				silver	
				<u>Turquoise</u>	Turquoise				turquoise	
				<u>Violet</u>	Violet				violet	
				<u>White</u>	White				white	
					Yellow				yellow	
highlight-colorant-mismatch	L		<u>C</u>	Unknown	Unknown				highlight-colorant-mismatch (type3 keyword name(MAX)) [JT, DT, PO] Specifies the action to be taken by the Printer if the desired highlight colorant is not currently loaded on the printer. Values are: abort, use-ready, hold, stop. [color&img] §3.9	
highlight-map	<u>L</u> <u>M</u>		<u>C</u>	N/A	ColorSpaceConversion ColorSpaceConversion Params/ ColorSpaceConversion Op/ @HighlightMap New attribute providing a selection of highlight mapping algorithms.				highlight-map (type3 keyword name(MAX)) [JT, DT, PO] Specifies the algorithm that the Printer MUST use for mapping colors defined in the full color space to a color in the highlight color space. [color&img] §3.10	
'pictorial'									'pictorial'	
'presentation'									'presentation'	
'object-based'									'object-based'	
'color-to-highlight'									'color-to-highlight'	
'exact-color'									'exact-color'	
'color-tables'									'color-tables'	
highlight-map-color	M		<u>C</u>	(P-or-N?) We need to allow the customer to select which color is to be mapped to	ColorSpaceConversion ColorSpaceConversion Params/ ColorSpaceConversion				highlight-map-color (type3 keyword name(MAX)) [JT, DT, PO] Specifies the color in the source document that is to be mapped by the	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				the highlight colorant. Add ColorSpaceConversionParams ? to ColorIntent as follows: ColorIntent/ ColorSpaceConversionParams/ ????	Op/ @SourceCS ISSUE: Don't we need more here to get highlight-map-color?				Printer to the highlight colorant when printing the document in highlight color mode. This value is used as an input parameter to the highlight mapping algorithm specified by the "highlight-map" attribute. <u>Values: see "colorant-value"</u> [color&img] §3.11	
media-back-coating	M		5 C	MediaIntent/ @BackCoatings (S)	Media/ @BackCoatings (S)	Yes (X)	1.0 media-back-coating	1.2	media-back-coating (type3 keyword name(MAX)) Indicates the pre-process coating applied to the back of the media. (Keywords: none, glossy, high-gloss, semi-gloss, satin, matte) [prod-print] §3.13.10	Yes
media-brightness	H		5 C	MediaIntent/ @Brightness (S)	Media/ @Brightness (S)		x.x		Brightness reflectance percentage. Not an IPP member attribute. Need a new IPP "media-brightness" (integer(0:100) member attribute. <u>JDF ISSUE: Brightness is the percentage reflectance of blue-white light (see reflective X-Rite spec) compared with the blue-white light of MgO at 457 nm per ISO Brightness</u>	

¹³ The effect of the IPP "insert-sheet" attributes when supplied at the job level of a multi-document job depends on the value of the "multiple-document-handling" Job Template attribute. For the 'single-document' and 'single-document-new-sheet' values, the pages are numbered as a single set from 1 to n for the job as a whole. For the 'separate-documents-collated-copies' and 'separate-document-uncollated-copies' values, the pages are numbered from 1 to n for each document separately.

¹⁴ Consider only supporting SettingsPolicy at the JDF Node level and not at the Resource level (which is contrary to the JDF 1.1 spec)

¹⁵ The "job-account-id" is termed a Job Description attribute instead of a Job Processing attribute by the PWG Semantic Model [pwg-sm].

¹⁶ The "job-accounting-user-id" is termed a Job Description attribute, instead of a Job Processing attribute, by the PWG Semantic Model [pwg-sm].

¹⁷ The IPP "job-collation-type" Job Description attribute has values of 'none', which the Printer sets from the two Job Template attributes: "multiple-document-handling" and "sheet-collate". For the FSG Job Ticket API, the "job-collation-type" should be both the input and the Description attribute, possibly with some additional values.

¹⁸ The IPP "job-id" Job Description attribute corresponds to the (new) "document-number" Document Description attribute.

¹⁹ Values of jt-mandatory-attributes supported for 1.0 will be None and All; x.x for the values that are specific attribute names.

²⁰ The "job-message-to-operator" is termed a Job Description attribute, instead of a Job Processing attribute, by the PWG Semantic Model [pwg-sm].

²¹ The "job-phone-number" attribute is termed a Job Description attribute, instead of a Job Processing attribute, by the PWG Semantic Model [pwg-sm].

²² The "job-recipient-name" attribute is termed a Job Description attribute, instead of a Job Processing attribute, by the PWG Semantic Model [pwg-sm].

²³ The IPP "job-state" Job Description attribute corresponds to the (new) "document-state" Document Description attribute.

²⁴ The IPP "job-state-message" Job Description attribute corresponds to the (new) "document-state-message" Document Description attribute.

²⁵ The IPP "job-state-reasons" Job Description attribute corresponds to the (new) "document-state-reasons" Document Description attribute.

²⁶ The IPP "job-uri" Job Description attribute does not have a corresponding Document Description attribute. The "job-uri" has proved problematic enough and not really needed.

²⁷ media-input-tray-name is mapped to IPP media attribute when no other media attributes are set.

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
									defined in ISO 2470. (as compared with whiteness which is the average percentage reflectance across the entire spectrum-). JDF ISSUE: The JDF spec needs to be clarified – it is ambiguous because it only states percent reflectance.	
media-color	H		5 C	MediaIntent/ @MediaColor (S)	Media/ @MediaColorName (S)	Yes (X)	1.0 media-color	1.2	media-color (type3 keyword name(MAX)) Indicates the desired color of the media being specified. . (Keywords: no-color, white, pink, yellow, blue, green, buff, goldenrod, red, gray, ivory, orange) [prod-print] §3.13.4 JDF ISSUE: Refer to TAPPI spec for media color?	Yes
media-front-coating	M		5 C	MediaIntent/ @FrontCoatings (S)	Media/ @FrontCoatings (S)	Yes (X)	1.0 media-front-coating	1.2	media-front-coating (type3 keyword name(MAX)) Indicates the pre-process coating applied to the front of the media. (Keywords: none, glossy, high-gloss, semi-gloss, satin, matte) [prod-print] §3.13.10	Yes
media-grain	M		5 C	(P or N?) LayoutIntent/ @FinishedGrainDirection ? Values: ParallelToBind, PerpendicularToBind, SystemSpecified ISSUE: Or should FinishedGrainDirection be in MediaIntent instead. For bound materials a designer needs to specify the grain direction (usually parallel to the binding).	Media/ @GrainDirection	No (X)	x.x		media-grain (type3 keyword name(MAX)) Indicates the grain of the media. Note: grain affects the curl and the folding of the medium. (Keywords: x-direction, y-direction) [prod-print2] §8.4.2	
							see document			

²⁸ media-input-tray-name is mapped to IPP media-input-tray-check when other media attributes are also set.

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
							individual attributes			
							This needs more work. Tom will provide descriptions for each notify-xxx attribute. Which attributes are required by IPP? See IANA uri schemes.			
opi-image-insertion	H		C	Add ImageViewingStrategy attribute to ProofingIntent: (N) ProofingIntent/ ProofItem/ @ImageViewingStrategy: insertImages (N) [new attribute Boolean default True=use OPI substitution]	Proofing, SoftProofing ProofingParams/ @ImageViewingStrategy note- <u>ISSUE</u> : Origination and Prepress CIP4 WG is revamping ProofingParams, check with them. So perhaps OPI image insertion should be done with the updated Preflight process?				opi-image-insertion (type2 keyword) [JT, DT, PO] Indicates the type of high resolution Open Prepress Interface (OPI) [OPI] image insertion to be performed by the Printer at RIP time for PostScript [PostScript] and PDF [PDF] documents. Such high resolution images may be stored in the print system, on the client on a network server. [color&img] §4.6.1	
				NoImages – Default value.	NoImages – Default value.				ISSUE: Should we add a 'no-image' value to IPP?	
'do-not-insert'				OmitReference – Displays only images actually embedded in the file.	OmitReference – Displays only images actually embedded in the file.				'do-not-insert'	
'insert'				UseProxies – Displays images embedded in the file and proxy versions of referenced data.	UseProxies – Displays images embedded in the file and proxy versions of referenced data.				'insert'	
				UseReplacements – Displays embedded	UseReplacements – Displays embedded				ISSUE: Should we add an 'embedded-and-insert' value to	

²⁹ The IPP “multiple-document-handling” attribute has been made unnecessary in the PWG Semantic Model by introducing the JobFinishings, JobFinishingsCol, and JobCopies Job Processing attributes to handle the cases of combining multiple Input Documents into a single Output Document. So Finishings, FinishingsCol, and Copies are Document Processing attributes that are intended to handle the separate Output Documents cases. Need to do the same for CoverFront and CoverBack.

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				images plus the full resolution version of referenced images.	images plus the full resolution version of referenced images.				IPP?	
opi-image-pre-scan	H		C	N/A	ISSUE: Or should OPI image pre-scan be done with the updated Preflight process? Add ImagePreScanStrategy to LayoutPreparationParams (N): LayoutPreparationLayoutPreparationParams/ @ImagePreScanStrategy LayoutElementProduction LayoutElement/ @ImagePrescan (N) [new boolean attribute]				opi-image-pre-scan (type2 keyword) [JT, DT, PO] Indicates whether or not the Printer is to pre-scan the document data in order to validate that OPI [OPI] images referenced within the document are accessible and, optionally, to pull them to the Printer, before processing the job, i.e., before RIPping or marking. [color&img] §4.6.2	
'no-pre-scan'					NoPreScan				'no-pre-scan'	
'pre-scan'					PreScan				'pre-scan'	
'pre-scan-and-gather'					PreScanAndGather				'pre-scan-and-gather'	
					SystemSpecified				omit the attribute and take the Printer's default: "opi-image-pre-scan-default".	
printer-resolution	H		6 C	(P or N?) There does not appear to be a way to specify resolution for Product Intent. However, the print buyer or designer may desire to specify printer resolution, especially	DigitalPrintingDigitalPrintingParams/ @Resolution (XYPair) OR RenderingRenderingParams/ ObjectResolution/	No (X)	1.0 job-printer-resolution	1.1	printer-resolution (resolution) [JT, DT, PO] The resolution that Printer uses for the Job in cross-feed and feed direction in units of dpi or dpcm. [RFC2911] §4.2.12	Yes

³⁰ The default of page-order-received is 1 to n which is reader order.

³¹ The IPP "page-order-received" Job Template attribute is mapped to the PageOrderReceived Document Description attribute in the PWG Semantic Model [pwg-sm].

³² The IPP "pages-per-subset" attribute can only be used when the "multiple-document-handling" Job Template attribute is 'separate-documents-collated-copies' or 'separate-documents-uncollated-copies', since the purpose of the "pages-per-subset" attribute is to produce separate output documents for each subset. Otherwise, the Printer MUST ignore the "pages-per-subset" attribute. Both the "pages-per-subset" and the "multiple-document-handling" are Job level only and cannot be Document Template attributes.

³³ The JDF/1.0 Appendix F incorrectly refers to "presentation-direction" which was renamed to "presentation-direction-number-up" in IEEE-ISTO 5100.3.

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				<p>because certain settings are suitable for certain types of work and are suited for particular desired quality levels.</p> <p>ISSUE: Should we use the (P) approach here with DigitalPrinting/DigitalPrintingParams / @Resolution (XYPair)?</p>	<p>@Resolution (XYPair)</p> <p>OR</p> <p>Screening ScreeningParams/ ScreenSelector/ @ScreeningFamily @SourceObjects=All</p> <p>Proofing, SoftProofing ProofingParams/ @Resolution (XYPair)</p> <p>PreviewGeneration PreviewGenerationParams/ @Resolution (XYPair)</p> <p>Preflight PSToPDFConversionParams/ @InitialResolution</p> <p>Trapping TrappingDetails/ @ObjectResolution/ Resolution (XYPair)</p>					
print-quality	M		6 <u>C</u>	<p>(P or N? Need to be able to specify from user)</p> <p>ISSUE: Why not add PrintQuality defined in InterpretingParams to ProofingIntent/ProofItem?</p> <p>OR use Rainer's suggestion to use: ProductionIntent/ @PrintPreference</p>	<p>Interpreting InterpretingParams/ @PrintQuality</p> <p>Note: DigitalPrintingParams/ @PrintQuality is deprecated in JDF/1.1.</p> <p>ISSUE: Check what's the difference between the two PrintQuality attributes.</p>	No (X)	1.0 job-print-quality x.x document-print-quality	1.1	print-quality (type2 enum) [JT, DT, PO] The print quality that the Printer uses for the Job. [RFC2911] §4.2.13	Yes

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				<p><i>with values:</i></p> <p><i>Balanced</i> – Request for a manufacturing process that balances the requirements for cost, speed and quality. The default.</p> <p><i>CostEffective</i> – Request for the most cost effective manufacturing process.</p> <p><i>Fastest</i> – Request for the most time effective manufacturing process. Cost and Quality may be sacrificed for a fast turnaround time.</p> <p><i>HighestQuality</i> – Request for the manufacturing process which will result in the highest quality.</p>						
'draft'				Fastest	Draft				'draft'	
'normal'				Balanced	Normal				'normal'	
'high'				HighestQuality	High				'high'	
Proofing (other than simple "print a proof")	L		2 1 1 C	Unknown	Unknown		x.x		No IPP attribute	
proof-print Only need to be able to specify that a proof is to be printed and approved.	H		2 1 1 C	ProofingIntent/ ProofItem/ @ProofType=Page (enumeration) (S)	Proofing ProofingParams/ @ProofType = Page (enumeration) (S) note Origination and Prepress CIP4 WG is revamping ProofingParams, check with them.	No (X)	x.x		proof-print (collection) [JT] Specifies the attributes for zero or more proof prints of the job that are to be printed prior to the printing the full run of the job. (Includes Media/MediaCol and any other Job Processing attributes). [prod-print2] §5.9	
proof-print-copies	L			ProofingIntent/ ProofItem/ @Amount (IntegerSpan)	Unknown				proof-print-copies (integer (0:MAX)) [JT] Specifies the attributes for zero or more proof prints of the job that are to be printed prior to the printing the	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
									full run of the job. If the value is zero, no proof job is produced. After the proof job(s) are completed, the Printer sets ProofPrintCopies to zero. puts the Job in the 'pending-held' state, and adds the 'proof-print-wait' value to the Job's JobStateReasons. After examining the proof print job output, the user can print the full run of the job by using the Release-Job action (see [RFC2911] section 3.3.6). (Includes Media/MediaCol and any other Job Processing attributes). [prod-print2] §5.9.1.1	
media <u>OR:</u>	L			N/A	N/A				media (type3 keyword name(MAX)) The <u>descriptive</u> name or <u>the name of the input tray containing</u> the media to use for the proof job. <u>See "media" on page 16.</u> [prod-print] §3.5.3	See IPP "media" attribute on page 16.
media-col	L			<u>Use the job's MediaIntent</u>	<u>Proofing Media</u>				media-col (collection) Characteristics of the media to use for the proof job. <u>See "media-col" on page 16.</u> [prod-print] §3.5.3	See IPP "media-col" attribute on page 16.
<u>proof-print-contact</u>	H	<u>EFI Approvals</u>	<u>2</u> <u>1</u> <u>1</u> <u>C</u>	<u>ProofingIntent/</u> <u>ApprovalParams/</u> <u>ApprovalPerson/</u> <u>Contact /@... (N) (S)</u>	<u>Approval</u> <u>ApprovalParams/</u> <u>ApprovalPerson/</u> <u>Contact/@... (S)</u>	<u>No (X)</u>	<u>x.x</u>	IPP extension: <u>proof-print-contact (text(MAX))</u> Specifies the name, address and/or phone number of the person to contact to approve the proof print.		
rendering-intent-{graphics images text}	H	EFI Color – Rendering Style	6 <u>C</u>	<u>Unknown??Add</u> <u>ColorSpaceConversionParams to</u> <u>ColorIntent (N):</u> <u>ColorIntent/</u> <u>ColorSpaceConversionParams/</u> <u>ColorSpaceConversionOp/</u> <u>@DestinationRenderingIntent (N)</u> <u>@RenderingIntent@SourceObjects=LineArt</u> <u>[@SourceCS=</u> <u>[@SourceObjects=LineArt SmoothShades </u> <u>ImagePhotographic</u> <u>ImageScreenShot </u> <u>Text]</u> <u>@DestinationRenderingIntent</u>	ColorSpaceConversion, Proofing, SoftProofing ColorSpaceConversionParams/ ColorSpaceConversionOp/ <u>@DestinationRenderingIntent (N)</u> <u>@RenderingIntent@SourceObjects=LineArt</u> SmoothShades ImagePhotographic ImageScreenShot Text] <u>[Text='text',</u> <u>LineArt-or</u> <u>SmoothShades</u>	No (X)		rendering-intent-{graphics images text} (type2 keyword) [JT, DT, PO] Specifies the rendering intent of a color document for text, graphics, and images. [color&img] §3.12		

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				(enumeration)	='graphics', ImagePhotographic or ImageScreenShot = 'images'] Issue: IPP "rendering- intent-xxx" maps to DestinationRenderingInt ent, not SourceRenderingIntent, right?					
'saturation'				Values of DestinationRendering Intent (enumeration) Saturation	Values of ProofRenderingIntent, SourceRenderingIntent (N): DestinationRenderingInt ent (N): (enumeration) Saturation				'saturation'	
'perceptual'				Perceptual – The default.	Perceptual – The default.				'perceptual'	
'relative-colorimetric'				RelativeColorimetric	RelativeColorimetric				'relative-colorimetric'	
'absolute-colorimetric'				AbsoluteColorimetric	AbsoluteColorimetric				'absolute-colorimetric'	
'pure-text'				ISSUE: Add ext?	ISSUE: Add ext?				'pure-text'	
'blended-pictorial-and- graphics'				ISSUE: Add ext?	ISSUE: Add ext?				'blended-pictorial-and-graphics'	
'automatic'				ISSUE: Add ext?	ISSUE: Add ext?				'automatic'	
default				Perceptual - The default	Perceptual - The default				"rendering-intent-{graphics images text}-default" Printer attribute	
resample-method	?	?	C	Unknown	Unknown ImageCompression- Params/ @ImageDownsampleType pe ISSUE: How do these values map: Average – The program averages groups of samples to get the new downsampled value. Subsample – The program picks the middle sample from a group of samples to get				resample-method (type2 keyword) [JT, DT, PO] specifies the transformation that the Printer MUST apply when converting an image (i.e. bit map) from one resolution to another resolution (higher or lower) for printing. The choice of resample- method does not affect the resolution of text or synthetic/vector graphic objects within the job to be printed. It is only applied to images (i.e. bit maps) embedded within the job's PDL data. Next version of [color&img].	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
					the new downsampled value.					
'nearest-neighbor'									'nearest-neighbor'	
'bi-linear'									'bi-linear'	
'bi-cubic'					Bicubic				'bi-cubic'	
'filtered'									'filtered'	
'automatic'									'automatic'	
'special'									'special'	
resource-cleanup	H		C	N/A	FileSpec/ FileAlias/ @Disposition FileSpec/ @Disposition				resource-cleanup (type3 keyword 1setOf name(MAX)) [JT, DT, PO] Identifies whether Printer is to delete or keep all files that had been explicitly transferred to the Printer <i>before</i> the job was submitted (not as part of the job submission) by any means outside the job submission protocol, such as FTP. [color&img] §4.8	
'delete'									'delete'	
'keep'									'keep'	
resource-pre-scan	H		C	N/A	ISSUE: Or should resource pre-scan be done with the new Preflight process under development? Add ImagePreScanStrategy to LayoutPreparationParams (N) as in "opi-image-pre-scan": LayoutPreparationLayoutPreparationParams/ @ImagePreScanStrategy LayoutElementProduction LayoutElement/@NonImagePrescan (N) [new boolean attribute]				resource-pre-scan (type2 keyword) [JT, DT, PO] Indicates whether or not the Printer is to pre-scan the document data in order to validate that resources referenced within the document(s) are accessible and, optionally, to pull them to the Printer, before processing the job, i.e., before RIPping or marking. This attribute MUST NOT affect OPI images (see "opi-image-pre-scan" attribute. [color&img] §4.9	
'no-pre-scan'					NoPreScan				'no-pre-scan'	
'pre-scan'					PreScan				'pre-scan'	
'pre-scan-and-gather'					PreScanAndGather				'pre-scan-and-gather'	
					SystemSpecified				omit the attribute and take the	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
									<u>Printer's default: "opi-image-pre-scan-default".</u>	
source-{cmy gray}- {graphics images text}	H		<u>C</u>	<u>(P-or-N?)Add</u> <u>ColorSpaceConversionParams to ColorIntent (N);</u> <u>ColorIntent/ColorSpaceConversionParams;</u> <u>ColorSpaceConversionOp/</u> <u>[@Operation="Retag"]</u> <u>@SourceCS</u> <u>[need to add CMY case (N)]</u> <u>@SourceObjects</u> <u>[Text='text',</u> <u>LineArt or</u> <u>SmoothShades</u> <u>= 'graphics',</u> <u>ImagePhotographic or</u> <u>ImageScreenShot =</u> <u>'images']</u> <u>FileSpec/</u> <u>[@ResourceUsage=</u> <u>"SourceProfile"]</u> <u>and</u> <u>FileSpec/</u> <u>@UID</u> <u>and</u> <u>FileSpec/</u> <u>@UserFileName</u>	ColorSpaceConversion ColorSpaceConversion Params/ ColorSpaceConversion Op/ [@Operation="Retag"] @SourceCS [need to add CMY case (N)] @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'] FileSpec/ [@ResourceUsage= "SourceProfile"] and FileSpec/ @UID and FileSpec/ @UserFileName				source-{cmy gray}-{graphics images text} (name(MAX)) [JT, DT, PO] Identifies the name of the installed Source Color Space Profile that the Printer MUST use to map the content data to the Profile Connection Space (PCS) for graphics, images & text content in either CMY color space or for grayscale data, respectively. <u>Relates to the way the data was encoded by the source.</u> [color&img] §3.13 ISSUE: Add a ignore-embedded-profiles {cmy cmyk rgb gray}-{graphics images text} (boolean) attribute to IPP?	
source-{cmyk rgb}- {graphics images text}	H	EFI Color – RGB Source	<u>6</u> <u>C</u>	<u>(P-or-N?)Add</u> <u>ColorSpaceConversionParams to ColorIntent (N);</u> <u>ColorIntent/ColorSpaceConversionParams;</u> <u>ColorSpaceConversionOp/</u> <u>[@Operation="Retag"]</u> <u>@SourceCS</u> <u>@SourceObjects</u> <u>[Text='text',</u> <u>LineArt or</u> <u>SmoothShades</u> <u>= 'graphics',</u> <u>ImagePhotographic or</u> <u>ImageScreenShot =</u>	ColorSpaceConversion ColorSpaceConversion Params/ ColorSpaceConversion Op/ [@Operation="Retag"] @SourceCS @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot =	No (X)			source-{cmyk rgb}-{graphics images text} (type3 keyword name(MAX)) [JT, DT, PO] Identifies the name of the installed Source Color Space Profile that the Printer MUST use to map the content data to the Profile Connection Space (PCS) for graphics, images & text content in either CMYK or RGB color spaces, respectively. <u>Relates to the way the data was encoded by the source.</u> [color&img] §3.13	

³⁴ TwoSidedHeadToFoot is the same as JDF TwoSidedFlipX and IPP 'two-sided-short-edge' when the Finished Document is portrait (X FinishedDimension is < Y FinishedDimension). When X FinishedDimension is > Y FinishedDimension, then TwoSidedHeadToFoot is equivalent to JDF TwoSidedFlipY and IPP 'two-sided-long-edge'.

³⁵ TwoSidedHeadToHead is the same as JDF TwoSidedFlipY and IPP 'two-sided-long-edge' when the Finished Document is portrait (X FinishedDimension is < Y FinishedDimension). When X FinishedDimension is > Y FinishedDimension, then TwoSidedHeadToHead is equivalent to JDF TwoSidedFlipX and IPP 'two-sided-short-edge'.

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CUPS	IPP Attribute Description	JDF/1.0 IDPrinting
				LineArt or SmoothShades = 'graphics', ImagePhotographic or ImageScreenShot = 'images'] FileSpec/[@ResourceUsage="SourceProfile"] and FileSpec/@UID and FileSpec/@UserFileName	'images'] FileSpec/[@ResourceUsage="SourceProfile"] and FileSpec/@UID and FileSpec/@UserFileName					
CMYK values: 'native-cmyk'			<u>C</u>	ISSUE: What values correspond to IPP values?	ISSUE: What values correspond to IPP values?				CMYK values: 'native-cmyk'	
'swop' [SWOP]									'swop' [SWOP]	
'euroscale'									'euroscale'	
'japan-color'									'japan-color'	
'enhanced-swop' [SWOP]									'enhanced-swop' [SWOP]	
'euroscale-matte'									'euroscale-matte'	
'euroscale-uncoated'									'euroscale-uncoated'	
RGB values: 'srgb' [IEC 61966-2.1]									RGB values: 'srgb' [IEC 61966-2.1]	
'smpte-240m' [SMPTE]									'smpte-240m' [SMPTE]	
trapping	H	EFI Image Quality – Trapping	<u>6</u> <u>C</u>	Unknown??Need on or off. ISSUE: Should we use the (P) method here and use the following on an Intent node: Trapping TrappingDetails/ @Trapping (boolean) (P)	Trapping TrappingDetails/[@Trapping=true] ObjectResolution/ @SourceObjects (enumerations) ISSUE: Need to add raster-based trapping controls to JDF.	No (X)			trapping (type2 keyword) [JT, DT, PO] Turns <i>in-RIP</i> color trapping applied by the printer on or off. The 'all' values causes the Printer to eliminate or add pixels at all adjoining object boundaries (text, graphics, images, and sweeps) when the C, M, Y, and K color planes may be mis-registered. The 'off' value turns trapping off. Note: The current Trapping process in JDF uses the resource TrappingDetails which has a boolean "Trapping"—this is intended as a control for PDL-based trapping. TrappingDetails also contains an attribute "IgnoreFileParams" which controls whether to honor PDL trapping commands. Unlike these PDL trapping commands—IPP trapping on/off controls in-RIP (raster based) trapping. [color&img] §3.14	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
'off'	H			@Trapping=false	TrappingDetails/ [@Trapping=false]				'off'	
	M				@SourceObjects= "LineArt SmoothShades"				graphics ISSUE: Should we add 'graphics', 'images', and 'text' to IPP?	
	M				@SourceObjects= "ImagePhotographic ImageScreenShot"				images	
	M				@SourceObjects= "Text"				text	
'allon'	H			@Trapping=true	@SourceObjects= "All"				'allon'	
trap-width-fast	H		C	Unknown??(P) On Intent node: Trapping TrappingDetails/ [@DefaultTrapping="true"] TrappingParams/ @TrapWidthFast (N) (integer(0:MAX))	Trapping TrappingDetails/ [@DefaultTrapping="true"] TrappingParams/ InRIP TrappingRendering RenderingParams/ @TrapWidthFast (N) (integer(0:MAX))				trap-width-fast (integer(0:MAX)) [JT, DT, PO] Specified the number of pixels at each object boundary that will be within the trapping region in the "fast scan direction". [color&img] §3.15	
trap-width-slow	H		C	Unknown??(P) On Intent node: Trapping TrappingDetails/ [@DefaultTrapping="true"] TrappingParams/ @TrapWidthSlow (N) (integer(0:MAX))	Trapping TrappingDetails/ [@DefaultTrapping="true"] TrappingParams/ Rendering RenderingParams/ InRIPTrapping/ @TrapWidthSlow (N) (integer(0:MAX))				trap-width-slow (integer(0:MAX)) [JT, DT, PO] Specified the number of pixels at each object boundary that will be within the trapping region in the "slow scan direction". [color&img] §3.16	
trc (Tone Reproduction Curves)	H		C	Use abstract ICC profiles — would be (N) or Add SeparationControlParams to ColorIntent (N) (S) ColorIntent SeparationControlParams TransferFunctionCont	DigitalPrinting TransferCurvePool/ TransferCurveSet/ [@Name=Paper] TransferCurve* OR ContoneCalibration TransferFunctionContro / [@TransferFunctionSou rce="Xxxx"]				trc (collection) [JT, DT, PO] Apply either named configured or user-supplied Tone Reproduction Curves (TRCs) to image data after it has been transformed to the output device's CMYK color space, thus modifying the printer's response to the rendered CMYK data. A User TRC defines a mapping from input intensity values to output intensity values. The mapping covers the complete domain of input intensity values. Also known as Intensity	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CUPS	IPP Attribute Description	JDF/1.0 IDPrinting
				rol/ [@TransferFunctionSource="Custom"] TransferCurvePool/ TransferCurveSet/ [@Name=Paper] TransferCurve/ @Curve @Separation=All (TransferFunction) (S)	TransferCurvePool/ TransferCurveSet/ [@Name=Paper] TransferCurve*/ @Curve @Separation(TransferFunction) OR Separation SeparationControlParams/ TransferFunctionControl/ [@TransferFunctionSource="Xxx"] TransferCurvePool/ TransferCurveSet/ [@Name=Paper] TransferCurve*/ @Curve (TransferFunction) (S)				Transfer Function. When dealing with 8 bit continuous tone data, the color intensity values for each color separation are specified as unsigned integer octets with values in the range from 0 to 255. Mapping all 256 possible intensity values of a single color separation requires a table that contains 256 octets. User supplied TRCs MUST contain all four color separation values. Data is 256 octets of curve data for a color separation. [color&img] §3.17	
trc-type					trc-type maps to TransferFunctionControl/ @TransferFunctionSource (enumeration) Values: ("Custom" maps to 'private' and "Device" maps to 'public')				trc-type (type2 keyword) - identifies the type of TRC. Values:	
'no-user-trc' (to eliminate system default TRC)					ISSUE: ??				'no-user-trc' (to eliminate system default TRC)	
'public' (find or save in public place for use by other jobs)					Device				'public' (find or save the trc identified by "trc-name" in public place for use by other jobs)	
'private' (for use by current job only)					Custom				'private' (find or temporarily save the trc identified by "trc-name" n a private place for use by this job only for use by current job only)	
trc-name									trc-name (name(MAX)) - name of the TRC to be found or saved (if " trc-xxx-data " supplied for each separation).	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CUPS	IPP Attribute Description	JDF/1.0 IDPrinting
trc-cyan-data					@Separation="cyan"				trc-cyan-data (octetString(256)) _256 octets of data for the cyan color separation.	
trc-magenta-data					@Separation="magenta"				trc-magenta-data (octetString(256)) _256 octets of data for the magenta color separation.	
trc-yellow-data					@Separation="yellow"				trc-yellow-data (octetString(256)) _256 octets of data for the yellow color separation.	
trc-black-data					@Separation="black"				trc-black-data (octetString(256)) _256 octets of data for the black separation.	
undefined-source-{cmy gray}-{graphics images text}	H		C	(P or N?) -We do need to provide a way for a customer to specify – “use this source profile for untagged color objects in the PDL” Add ColorSpaceConversionParams to ColorIntent (N) ColorIntent/ColorSpaceConversionParams ColorSpaceConversionOp/ [@Operation"Tag"] @SourceCS [need to add CMY case (N)] @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/ [@ResourceUsage="SourceProfile"] and FileSpec/ @UID and FileSpec/ @UserFileName	ColorSpaceConversion ColorSpaceConversion Params/ ColorSpaceConversion Op/ [@Operation"Tag"] @SourceCS [need to add CMY case (N)] @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/ [@ResourceUsage="SourceProfile"] and FileSpec/ @UID and FileSpec/ @UserFileName			undefined-source-{cmy gray}-{graphics images text} (name(MAX)) [JT, DT, PO] Identifies the name of the installed Source Color Space Profile that the Printer MUST use to map the <i>untagged</i> content data to the Profile Connection Space (PCS) for graphics, images & text content in either CMY color space or for grayscale data, respectively. [color&img] §3.13		
undefined-source-{cmyk rgb}-{graphics images text}	H		C	(P or N?) -We do need to provide a	ColorSpaceConversion ColorSpaceConversion				undefined-source-{cmyk rgb}-{graphics images text} (type3	

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
text} (type3 keyword name(MAX))				way for a customer to specify – “use this source profile for untagged color objects in the PDL” Add ColorSpaceConversionParams to ColorIntent (N) ColorIntent/ColorSpaceConversionParams/ColorSpaceConversionOp/[@Operation="Tag"]@SourceCS@SourceObjects[Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/[@ResourceUsage="SourceProfile"] @SourceCS@SourceObjects[Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/[@ResourceUsage="SourceProfile"]	Params/ColorSpaceConversionOp/[@Operation="Tag"]@SourceCS@SourceObjects[Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/[@ResourceUsage="SourceProfile"] and FileSpec/@UID and FileSpec/@UserFileName				keyword name(MAX)) [JT, DT, PO] Identifies the name of the installed Source Color Space Profile that the Printer MUST use to map the <i>untagged</i> content data to the Profile Connection Space (PCS) for graphics, images & text content in either CMYK or RGB color spaces, respectively. [color&img] §3.13	
CMYK values: 'native-cmyk'				ISSUE: What values correspond to IPP values?	ISSUE: What values correspond to IPP values?				CMYK values: 'native-cmyk'	
'swop' [SWOP]									'swop' [SWOP]	
'euroscale'									'euroscale'	
'japan-color'									'japan-color'	
'enhanced-swop' [SWOP]									'enhanced-swop' [SWOP]	
'euroscale-matte'									'euroscale-matte'	
'euroscale-uncoated'									'euroscale-uncoated'	
RGB values: 'srgb' [IEC 61966-2.1]									RGB values: 'srgb' [IEC 61966-2.1]	
'smpte-240m' [SMPTE]									'smpte-240m' [SMPTE]	
x-image-position	H		6 or 7 ?	N/A (P)	LayoutPreparationLayoutPreparationParams/ImageShift/	Fit Policy (X)	1.0 job-image-position-x x.x document-image-	1.2	x-image-position (type2 keyword) [JT, DT, PO] Causes the specified point of the Finished-Page Image to be positioned at a specified location.	Yes

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
			<u>C</u>		@PositionX /FitPolicy/ @SizePolicy		position-x x.x po-image- position-x 1.0 job-fit-policy x.x document- fit-policy x.x po-fit-policy		[prod-print] §3.19.2	
'none'					<i>None</i>				'none'	
'center'					<i>Center</i>				'center'	
'left'					<i>Left</i>				'left'	
'right'					<i>Right</i>				'right'	
x-image-shift	N		<u>C</u>	N/A	N/A	No	Never	1.2	x-image-shift (integer(MIN:MAX)) [JT, DT, PO] Causes the Finished-Page Image to be shifted in position with respect to the x-axis of the media. The unit of measure for this attribute is hundredths of a millimeter. The sign of the value indicates the direction of the shift. [prod-print] §3.19.3	Yes
x-side1-image-shift	H		6 or 7 ? <u>C</u>	N/A (P)	LayoutPreparation LayoutPreparationPara ms/ ImageShift/ @ShiftFront	Image Shift Front Side (X)	1.0 job-image- shift-front-x x.x document- image-shift- front-x x.x po-image- shift-front-x	1.2	x-side1-image-shift (integer(MIN:MAX)) [JT, DT, PO] Causes each Finished-Page Image that would be placed on the front side of a sheet to be shifted in position with respect to the x-axis of the media. The unit of measure for this attribute is hundredths of a millimeter. The sign of the value indicates the direction of the shift. [prod-print] §3.19.4	Yes
x-side2-image-shift	H		6 or 7 ? <u>C</u>	N/A (P)	LayoutPreparation LayoutPreparationPara ms/ImageShift/ @ShiftBack	Image Shift Back Side (X)	1.0 job-image- shift-back-x x.x document- image-shift- back-x x.x po-image- shift-back-x	1.2	x-side2-image-shift (integer(MIN:MAX)) [JT, DT, PO] Causes each Finished-Page Image that would be placed on the back side of a sheet to be shifted in position with respect to the x-axis of the media. The unit of measure for this attribute is hundredths of a millimeter. The sign of the value indicates the direction of the shift. [prod-print] §3.19.5	Yes
y-image-position	H		6 or 7	N/A (P)	LayoutPreparation LayoutPreparationPara ms/	Fit Policy (X)	1.0 job-image- position-y x.x document-	1.2	y-image-position (type2 keyword) [JT, DT, PO] Causes the specified point of the Finished-Page Image to	Yes

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
			? <u>C</u>		ImageShift/ @PositionY /FitPolicy/ @SizePolicy		image- postion-y x.x po-image- position-y 1.0 job-fit-policy x.x document- fit-policy x.x po-fit-policy		be positioned at a specified location. (Keywords: none, center, top, bottom) [prod-print] §3.19.6	
'none'					None				'none'	
'center'					Center				'center'	
'left'					Left				'left'	
'right'					Right				'right'	
y-image-shift	N		<u>C</u>	N/A	N/A	No	Never	1.2	y-image-shift (integer(MIN:MAX)) [JT, DT, PO] Causes the Finished- Page Image to be shifted in position with respect to the y-axis of the media. The unit of measure for this attribute is hundredths of a millimeter. The sign of the value indicates the direction of the shift. [prod-print] §3.19.7	Yes
y-side1-image-shift	H		6 or 7 ? <u>C</u>	N/A (P)	LayoutPreparation LayoutPreparationPara ms/ ImageShift/ @ShiftFront	Image Shift Front Side (X)	1.0 job-image- shift-front-y x.x document- image-shift- front-y x.x po-image- shift-front-y	1.2	y-side1-image-shift (integer(MIN:MAX)) [JT, DT, PO] Causes each Finished-Page Image that would be placed on the front side of a sheet to be shifted in position with respect to the y-axis of the media. The unit of measure for this attribute is hundredths of a millimeter. The sign of the value indicates the direction of the shift. [prod-print] §3.19.8	Yes
y-side2-image-shift	H		6 or 7 ? <u>C</u>	N/A (P)	LayoutPreparation LayoutPreparationPara ms/ ImageShift /@ShiftBack	Image Shift Back Side (X)	1.0 job-image- shift-back-y x.x document- image-shift- back-y x.x po-image- shift-back-y	1.2	y-side2-image-shift (integer(MIN:MAX)) [JT, DT, PO] Causes each Finished-Page Image that would be placed on the back side of a sheet to be shifted in position with respect to the y-axis of the media. The unit of measure for this attribute is hundredths of a millimeter. The sign of the value indicates the direction of the shift. [prod-print] §3.19.9	Yes
no IPP exists	H	1.1 Special (Spot) Color Handling	6 <u>C</u>	ColorIntent/ ColorsUsed/	DigitalPrinting ColorantControl/	Spot Color (X)				

IPP Attribute Name	P	PODi	C at	JDF 1.1 Product Intent	JDF 1.1 Process Resource	OSDP JDF Spec	JTAPI	CU PS	IPP Attribute Description	JDF/1.0 IDPrinting
				SeparationSpec/@Name (S)	ColorantParams/ SeparationSpec/@Name (S)					
no IPP exists	L ?	EFI Color – CMYK Simulation	6 <u>C</u>	Unknown	Unknown	No (X)			Is IPP color-emulation the same?	
no IPP exists	H	EFI Color – Spot Color Matching Note: this is needed in IPP as well.	6 <u>C</u>	Unknown	Unknown	No (X)			Not an IPP attribute. Note: this is needed in IPP as well.	
no IPP exists	L ?	EFI Image Quality – Black Detection	6 <u>C</u>	Unknown	ColorSpaceConversion ColorSpaceConversion Params/ ColorSpaceConversion Op/ RGBGray 2Black ISSUE: Need to add threshold instead of boolean to JDF.	No (X)			Not an IPP attribute. Need a new IPP boolean attribute	
	<u>L</u>	<u>EFI Image Quality – Sharpness</u>	<u>C</u>							

2 Proposed clarifications and extensions to JDF/1.1 for JDF/1.2 needed by the Product Intent and/or Process Resource mappings

Table 3 contains a copy of the proposed clarifications and extensions to JDF/1.1 for inclusion in JDF/1.2 as needed by the Product Intent and/or Process Resource mappings. As agreements are reached on clarifications both Table 2 and Table 3 are updated. The purpose of Table 3 is have a simple way to keep track of the proposed clarifications and extensions. The Status columns indicate the level of agreement and action: N/AJDF/1.1 (already in JDF/1.1), Proposed, Agreed, Edited (in JDF/1.2 input to FrameMaker), Checked (in JDF/1.2 FrameMaker).

Table 3 - Proposed clarifications and extensions to JDF/1.1 for JDF/1.2 needed by the Product Intent and/or Process Resource mappings

attribute name	JDF Product Intent	Status	JDF Process Resource	Status
<u>Abstract Profile for preference adjustment</u>	Add ColorCorrectionParams to ColorIntent (N) ColorIntent/ ColorCorrectionParams/ FileSpec/ [@ResourceUsage="AbstractProfile"] (N)	Proposed	ColorCorrection ColorCorrectionParams/ FileSpec/ [@ResourceUsage="AbstractProfile"] (N) (S) Add this new file spec to allow specification of preferential color adjustment.	Proposed

³⁶ Can this be accomplished by shifting the image using the image-shift attributes?

³⁷ Describe in spec how vendor-specific extensions should be handled.

	Add this new file spec to allow specification of preferential color adjustment (N) (S) ³⁸			
adjust-{cyan-red magenta-green yellow-blue}	Add: ColorCorrectionParams to ColorIntent (N) ColorIntent/ ColorCorrectionParams/ @AdjustCyanRed @AdjustMagentaGreen @AdjustYellowBlue (integer (-100:100)) (N) (S) Add integer knob for Print Shop Customers who need quick and dirty last-minute fixes. Use abstract-ICC profiles (P or N?) We need to provide a way for the customer to specify a hue adjustment through supplying an abstract profile.	Proposed	ColorCorrection ColorCorrectionParams/FileSpec[@ResourceUsage="AbstractProfile"] (N) Add this new file spec to allow specification of preferential color adjustment. @AdjustCyanRed @AdjustMagentaGreen @AdjustYellowBlue (integer (-100:100)) (N) (S) Add integer knob for Job Submitters who need quick and dirty last-minute fixes.	Proposed
adjust-contrast	Add: ColorCorrectionParams to ColorIntent (N) ColorIntent/ ColorCorrectionParams/ @AdjustContrast (integer (-100:100)) (N) (S) (P or N?) We need to provide a way for the customer to specify a contrast adjustment through supplying an abstract profile.	Proposed	ColorCorrection ColorCorrectionParams/FileSpec[@ResourceUsage="AbstractProfile"] @AdjustContrast (integer (-100:100)) (N) (S) Add this new file spec to allow specification of preferential color adjustment.	Proposed
adjust-hue	Add: ColorCorrectionParams to ColorIntent (N) ColorIntent/ ColorCorrectionParams/ @AdjustHue (integer (-180:180)) (N) (S)	Proposed	ColorCorrection ColorCorrectionParams/ @AdjustHue (integer (-180:180)) (N) (S) apply to all kinds of objects.	Proposed
adjust-lightness	Add: ColorCorrectionParams to ColorIntent (N) ColorIntent/ ColorCorrectionParams/ @AdjustLightness (integer (-100:100)) (N) (S) (P or N?) We need to provide a way for the customer to specify a lightness adjustment through supplying an abstract profile.	Proposed	ColorCorrection ColorCorrectionParams/ @AdjustLightness (integer (-100:100)) (N) (S) ColorCorrection ColorCorrectionParams/FileSpec[@ResourceUsage="AbstractProfile"] (N) Add this new file spec to allow specification of preferential color adjustment.	Proposed

³⁸ For example, a customer might use a Photoshop plug-in to generate an abstract profile, after viewing the job color objects through a softproofing image path.

adjust-saturation	<p>Add: ColorCorrectionParams to ColorIntent (N);</p> <p>ColorIntent/ ColorCorrectionParams/ @AdjustSaturation (integer (-100:100)) (N) (S) We need to provide a way for the customer to specify a saturation adjustment through supplying an abstract profile.</p>	Proposed	<p>ColorCorrection ColorCorrectionParams/ @AdjustSaturation (integer (-100:100)) (N) (S) FileSpec[@ResourceUsage="AbstractProfile"] (N) Add this new file spec to allow specification of preferential color adjustment</p>	Proposed
anti-aliasing	<p>Unknown?? ISSUE: Should we do intent anti-aliasing with Process or add an AntiAliasing attribute to some Intent Resource? Which one?(P)</p>	Proposed N/A	<p>Rendering RenderingParams/ ObjectResolution/ @AntiAliasing (N) new attribute with list of possible values "None" "SystemSpecified"</p>	Proposed
black-overprint	<p>(N)-Designer may specify "Rich Black" which is black-overprint on. Add SeparationControlParams to ColorIntent (N)</p> <p>ColorIntent/ SeparationControlParams/ AutomatedOverprintParams/ @OverPrintBlackText@OverPrintBlackLineArt (N) (S)</p>	Proposed	<p>Rendering RenderingParams/ AutomatedOverprintParams/ @OverPrintBlackText@OverPrintBlackLineArt No mapping for IPP 'black-overprint-off' value. OR Separation SeparationControlParams/ AutomatedOverprintParams/ @OverPrintBlackText@OverPrintBlackLineArt (S)</p>	N/A JDF/ 1.1
bleed-edge-printing	<p>LayoutIntent/ Margins [new rectangle attribute] (N)</p>	Proposed	<p>DigitalPrintingParams/Margins [new rectangle attribute]</p>	Proposed
color-destination-profile-back	<p>Print shop customers needs to be able to specify Add: ColorSpaceConversionParams to ColorIntent (N)</p> <p>ColorIntent/ ColorSpaceConversionParams/ FileSpec [@ResourceUsage="FinalTargetDevice"] (S)</p> <p>Note: Partition with PartIDKeys="Side" to get different Profiles for front and back of sheets.</p>	Proposed	<p>ColorCorrection ColorCorrectionParams/ FileSpec FileSpecLink/ [@ResourceUsage="FinalTargetDevice"] (N) (S)</p> <p>or</p> <p>ColorSpaceConversion, Proofing, SoftProofing ColorSpaceConversionParams/ FileSpec{ FileSpecLink/ [@ResourceUsage="FinalTargetDevice"] (N) (S)</p> <p>ISSUE: Do we really need the ColorSpaceConversion for our mapping and subset for use with the DigitalPrinting process too?</p> <p>Note: Partition with PartIDKeys="Side" to get different Profiles for front and back of sheets.</p> <p>ISSUE: What is the difference between ColorCorrection and ColorSpaceConversion? ISSUE: Do we need to specify both in the ICS?</p>	Proposed

<p>color-destination-profile-front</p>	<p>Print_shop Customers needs to be able to specify Add ColorSpaceConversionParams to ColorIntent (N) ColorIntent/ ColorSpaceConversionParams/ FileSpec [@ResourceUsage="FinalTargetDevice"] (S) Note: Partition with PartIDKeys="Side" to get different Profiles for front and back of sheets.</p>	<p>Proposed</p>	<p>ISSUE: Can both processes be used with FinalTargetDevice in the same Job Ticket? ColorCorrection ColorCorrectionParams/ FileSpec {FileSpecLink/ [@ResourceUsage="FinalTargetDevice"] (N) or ColorSpaceConversion, Proofing, SoftProofing ColorSpaceConversionParams/ FileSpec {FileSpecLink/ [@ResourceUsage="FinalTargetDevice"] (N) (S) Note: Partition with PartIDKeys="Side" to get different Profiles for front and back of sheets.</p>	<p>Proposed</p>
<p>color-emulation</p>	<p>ColorIntent/ @ColorStandard AND/OR Add ColorSpaceConversionParams to ColorIntent (N) ColorIntent/ ColorSpaceConversionParams/ FileSpec [@ResourceUsage="EmulationProfile"] (N) (S) If both supplied, the Profile gives the details of the ColorStandard value.</p>	<p>N/A JDF/ 1.1</p>	<p>DigitalPrinting Ink/ @Family OR should we use: ColorIntent/ @ColorStandard ISSUE: Which one of the above are we going to pick for the ICS? AND/OR be used in combination with: ColorSpaceConversion, Proofing, SoftProofing ColorSpaceConversionParams/ FileSpec {FileSpecLink/ @ResourceUsage="EmulationProfile"] (N)</p>	<p>Proposed</p>
<p>cover-back (M) media media-col cover-type note: cover could be printed or preprinted/blank</p>	<p>ISSUE: Should there be a way to specify Covers as Product Description at a high level? (N)</p>	<p>Proposed</p>	<p>mapping OK: Printed cover: DigitalPrinting DigitalPrintingParams/Media,LayoutPreparationParams/@Sides,RunList/InsertSheet/@SheetType,@SheetUsage,@Pages (S) Preprinted/blank cover: LayoutPreparation RunList/@Pages,InsertSheet/@SheetUsage,@SheetType,Media (S)</p>	<p>N/A JDF/ 1.1</p>
<p>edge to edge printing</p>	<p>LayoutIntent/ @NonPrintableMargins (N) {NumberList}</p>	<p>Proposed</p>	<p>DigitalPrinting DigitalPrintingParams/@NonPrintableMargins (N) {rectangleNumberList} NumberList size of non-printable margin in points. OK? ISSUE: Or should NonPrintableMargins be added to RenderingParams instead?</p>	<p>Proposed</p>
<p>halftone-{graphics images text}</p>	<p>provide a means for the customer to specify the halftone "look" – often the halftone used</p>	<p>Proposed</p>	<p>mappings OK: Screening ScreeningParams/ScreenSelector/@ScreeningFamily, @SourceObjects</p>	<p>N/A JDF/ 1.1</p>

	<p>is a visible attribute of the finished piece.</p> <p>Define a new Intent Resource so that a span of numeric values can be specified.</p> <p>ScreeningIntent ScreenIntentSelector @AMLineFrequencySpan ? @FMMacroDotsPerInchSpan ? @ScreeningFamilySpan (Name, Low, Medium, High) @ScreeningType ? (AM, FM, adaptive system defined) @SourceObjects @SpotFunctionSpan ?</p>		<p>Rendering RenderinParams/ObjectResolution/@ResolutionRendering</p> <p>RenderingParams/ObjectResolution/@Resolution</p> <p>Proofing, SoftProofing ProofingParams/@Resolution</p> <p>PreviewGeneration PreviewGenerationParams/@Resolution,</p> <p>Preflight PSToPDFConversionParams/@InitialResolution</p>	
highlight-colorant	<p>ColorIntent/ ColorPool/ Color/ @ColorName (S)</p> <p>ColorUsed/ @SeparationSpec</p> <p>ISSUE: Add new values to Appendix A.2.8</p>		<p>Add values to Color/@ColorName (Appendix A.2.8): Cardinal, Cyan, Magenta, Royal, Ruby</p>	Proposed
highlight-map	N/A	N/A JDF/ 1.1	<p>ColorSpaceConversion, Proofing, SoftProofing ColorSpaceConversionParams/ColorSpaceConversionOp/@HighlightMap New attribute providing a selection of highlight mapping algorithms.</p>	Proposed
highlight-map-color	(P or N?) We need to allow the customer to select which color is to be mapped to the highlight colorant.	Proposed	<p>mapping OK: ColorSpaceConversion ColorSpaceConversionParams/ColorSpaceConversionOp/@SourceCS</p>	N/A JDF/ 1.1
Job Comment or description of job	Comment/@Name=JobDescription (N) (S)	Proposed	Comment/@Name=JobDescription (N) (S)	Proposed
job-message-to-operator	N/A	N/A JDF/ 1.1	JDF/Comment/@Name="MessageToOperator" (N)	Proposed
media-brightness	Clarify MediaIntent/@Brightness	N/A JDF/ 1.1	Clarify Media/@Brightness	N/A JDF/ 1.1
media-grain	<p>(P or N?) LayoutIntent/ @FinishedGrainDirection ? Values ParallelToBind PerpendicularToBind SystemSpecified ISSUE: Or should FinishedGrainDirector be in MediaIntent instead.</p> <p>For bound materials a designer needs to specify the grain direction (usually parallel</p>	Proposed	mapping OK: Media/@GrainDirection	N/A JDF/ 1.1

<p>opi-image-insertion</p>	<p>to the binding).</p> <p>Add ImageViewingStrategy attribute to ProofingIntent. (N)</p> <p>ProofingIntent/ ProofItem/ @ImageViewingStrategy InsertImages (N)</p> <p>[new attribute Boolean default True=use OPI substitution]</p>	<p>Proposed</p>	<p>mapping OK : Proofing, SoftProofing ProofingParams/@ImageViewingStrategy</p> <p>Note Origination and Prepress CIP4 WG is revamping ProofingParams, check with them.</p>	<p>N/A JDF/ 1.1</p>
<p>opi-image-pre-scan</p>	<p>N/A</p>	<p>N/A JDF/ 1.1</p>	<p>ISSUE: Or should OPI image pre-scan be done with the updated Preflight process?</p> <p>Add ImagePreScanStrategy to LayoutPreparationParams (N):</p> <p>LayoutPreparation LayoutPreparationParams/ @ImagePreScanStrategy LayoutElementProduction LayoutElement/ @ImagePrescan (N) [new boolean attribute]</p>	<p>Proposed</p>
<p>printer-resolution</p>	<p>(P or N?) There does not appear to be a way to specify resolution for Product Intent. However, the print buyer or designer may desire to specify printer resolution, especially because certain settings are suitable for certain types of work and are suited for particular desired quality levels.</p> <p>ISSUE: Should we use the (P) approach here with DigitalPrinting DigitalPrintingParams/ @Resolution (XYPair)?</p>	<p>Proposed</p>	<p>mappings OK: DigitalPrintingParams/ @Resolution (XYPair)</p> <p>OR</p> <p>Rendering RenderingParams/ ObjectResolution/ @Resolution (XYPair)</p> <p>OR</p> <p>Screening ScreeningParams/ ScreenSelector/ @ScreeningFamily @SourceObjects=All</p> <p>Proofing, SoftProofing ProofingParams/ @Resolution (XYPair)</p> <p>PreviewGeneration PreviewGenerationParams/ @Resolution</p>	<p>N/A JDF/ 1.1</p>

			<p>(XYPair)</p> <p>Preflight PSToPDFConversionParams/ @InitialResolution</p> <p><u>Trapping</u> <u>TrappingDetails/</u> <u>@ObjectResolution/</u> <u>Resolution</u> <u>(XYPair)</u></p>	
print-quality	<p>user</p> <p>ISSUE: Why not add PrintQuality defined in InterpretingParams to ProofingIntent/ProofItem? OR use Rainer's suggestion to use: <u>ProductionIntent/</u> <u>@PrintPreference</u> with values: <u>Balanced</u> – Request for a manufacturing process that balances the requirements for cost, speed and quality. The default. <u>CostEffective</u> – Request for the most cost effective manufacturing process. <u>Fastest</u> – Request for the most time effective manufacturing process. Cost and Quality may be sacrificed for a fast turnaround time. <u>HighestQuality</u> – Request for the manufacturing process which will result in the highest quality.</p>	Proposed	<p>Interpreting InterpretingParams/ @PrintQuality Note: DigitalPrintingParams/@PrintQuality is deprecated in JDF/1.1. ISSUE: Check what's the difference between the two PrintQuality attributes.</p>	<u>N/A</u> JDF/ <u>1.1</u>
<u>rendering-intent- {graphics images text}</u>	<p><u>Unknown??Add</u> <u>ColorSpaceConversionParams</u> to ColorIntent (N):</p> <p><u>ColorIntent/</u> <u>ColorSpaceConversionParams/</u> <u>ColorSpaceConversionOp/</u> <u>[@SourceCS=</u> <u>[@SourceObjects=LineArt SmoothShades </u> <u>ImagePhotographic ImageScreenShot </u> <u>Text]</u> <u>@DestinationRenderingIntent</u> <u>(enumeration)</u></p>	??	<p>ColorSpaceConversionParams/ ColorSpaceConversionOp/ <u>@DestinationRenderingIntent (N</u> <u>@RenderingIntent[@SourceObjects=LineArt SmoothShades </u> <u>ImagePhotographic ImageScreenShot </u> <u>Text]</u></p> <p><u>[Text='text',</u> <u>LineArt or SmoothShades –'graphics', ImagePhotographic or ImageScreenShot – 'images']</u> Issue: IPP "rendering-intent-xxx" maps to DestinationRenderingIntent, not SourceRenderingIntent, right?</p>	ISSUE
resource-pre-scan	N/A	<u>N/A</u> JDF/ <u>1.1</u>	<p>ISSUE: Or should resource pre-scan be done with the new Preflight process under development? Add <u>ImagePreScanStrategy</u> to LayoutPreparationParams (N) as in "opi-image-pre-scan":</p>	Proposed

			<p>LayoutPreparation LayoutPreparationParams/ @ImagePreScanStrategy LayoutElementProduction LayoutElement/@NonImagePrescan (N) [new boolean attribute]</p>	
<p>source-{cmy gray}- {graphics images text}</p>	<p>(P or N?) Add ColorSpaceConversionParams to ColorIntent (N)</p> <p>ColorIntent/ ColorSpaceConversionParams ColorSpaceConversionOp/ [@Operation="Retag"] @SourceCS need to add CMY case (N) @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'] FileSpec/ [@ResourceUsage= "SourceProfile"]</p>	<p>Proposed</p>	<p>ColorSpaceConversion ColorSpaceConversionParams/ ColorSpaceConversionOp/ [@Operation="Retag"] @SourceCS need to add CMY case (N) @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'] FileSpec/ [@ResourceUsage= "SourceProfile"] and FileSpec/ @UID and FileSpec/ @UserFileName</p>	<p>Proposed</p>
<p>source-{cmyk rgb}- {graphics images text} (type3 keyword name(MAX))</p>	<p>(P or N?) Add ColorSpaceConversionParams to ColorIntent (N)</p> <p>ColorIntent/ ColorSpaceConversionParams ColorSpaceConversionOp/ [@Operation="Retag"] @SourceCS @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'] FileSpec/ [@ResourceUsage= "SourceProfile"]</p>	<p>Proposed</p>	<p>mapping OK: ColorSpaceConversion ColorSpaceConversionParams/ColorSpaceConversionOp/[@Operation="Retag"] , @SourceCS, @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/[@ResourceUsage="SourceProfile"] and FileSpec/@UID and FileSpec/@UserFileName</p>	<p>N/A JDF/ 1.1</p>
<p>trapping</p>	<p>Unknown?? Need on or off.</p> <p>ISSUE: Should we use the (P) method here and use the following on an Intent node:</p> <p>Trapping TrappingDetails/</p>	<p>N/A JDF/ 1.1</p>	<p>Mapping OK: Trapping TrappingDetails/ [@Trapping=true] ObjectResolution/ @SourceObjects (enumerations)</p>	<p>Proposed</p>

	@Trapping (boolean) (P)			
trap-width-fast	Unknown??(P) On Intent node: Trapping TrappingDetails/ [@DefaultTrapping="true"] TrappingParams/ @TrapWidthFast (N) (integer(0:MAX))	N/A JDF/ 1.1	Trapping TrappingDetails/ [@DefaultTrapping="true"] TrappingParams/InRIPTrappingRendering RenderingParams/ @TrapWidthFast (N) (integer(0:MAX))	Proposed
trap-width-slow	Unknown??(P) On Intent node: Trapping TrappingDetails/ [@DefaultTrapping="true"] TrappingParams/ @TrapWidthSlow (N) (integer(0:MAX))	N/A JDF/ 1.1	Trapping TrappingDetails/ [@DefaultTrapping="true"] TrappingParams/ Rendering RenderingParams/ InRIPTrapping/ @TrapWidthSlow (N) (integer(0:MAX))	Proposed
trc	Use abstract ICG profiles—would be (N) or Add SeparationControlParams to ColorIntent (N) (S) ColorIntent/ SeparationControlParams/ TransferFunctionControl/ [@TransferFunctionSource="Custom"] TransferCurvePool/ TransferCurveSet/ [@Name=Paper] TransferCurve/ @Curve @Separation=All (TransferFunction) (S)	Proposed	mapping OK: DigitalPrinting TransferCurvePool/ TransferCurveSet/ [@Name=Paper] TransferCurve* OR ContoneCalibration TransferFunctionControl/ [@TransferFunctionSource="Xxx"] TransferCurvePool/ TransferCurveSet/ [@Name=Paper] TransferCurve*/ @Curve @Separation(TransferFunction) OR Separation SeparationControlParams/ TransferFunctionControl/ [@TransferFunctionSource="Xxx"] TransferCurvePool/ TransferCurveSet/ [@Name=Paper] TransferCurve*/	N/A JDF/ 1.1

undefined-source-{cmy gray}-{graphics images text}	<p>(P or N?) We do need to provide a way for a customer to specify – “use this source profile for untagged color objects in the PDL”</p> <p>Add ColorSpaceConversionParams to ColorIntent (N)</p> <p>ColorIntent/ ColorSpaceConversionParams/ ColorSpaceConversionOp/ [@Operation"Tag"] @SourceCS [need to add CMY case (N)] @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/ [@ResourceUsage="SourceProfile"]</p>	Proposed	<p><u>@Curve</u> <u>(TransferFunction) (S)</u></p> <p>ColorSpaceConversion ColorSpaceConversionParams/ ColorSpaceConversionOp/ [@Operation"Tag"] @SourceCS [need to add CMY case (N)] @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/ [@ResourceUsage="SourceProfile"] and FileSpec/ @UID and FileSpec/ @UserFileName</p>	Proposed
undefined-source-{cmyk rgb}-{graphics images text} (type3 keyword name(MAX))	<p>(P or N?) We do need to provide a way for a customer to specify – “use this source profile for untagged color objects in the PDL”</p> <p>Add ColorSpaceConversionParams to ColorIntent (N)</p> <p>ColorIntent/ ColorSpaceConversionParams/ ColorSpaceConversionOp/ [@Operation"Tag"] @SourceCS @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/ [@ResourceUsage="SourceProfile"]</p>	Proposed	<p>mapping OK: ColorSpaceConversion ColorSpaceConversionParams/ ColorSpaceConversionOp/ [@Operation="Tag"] @SourceCS @SourceObjects [Text='text', LineArt or SmoothShades ='graphics', ImagePhotographic or ImageScreenShot = 'images'], FileSpec/ [@ResourceUsage="SourceProfile"] and FileSpec/ @UID and FileSpec/ @UserFileName</p>	N/A JDF/ 1.1
zz no IPP exists 1.1 Bookletmaking	<p>ISSUE: Want to be able to specify an interoperable BookletMaking w/o breaking it out into individual resources. Possibly a BookletMaking catalog.</p>	Proposed	same as Product Intent	Proposed

3 Suggested extensions to IPP needed by the JDF Product Intent and/or Process Resource subset chosen

Table 4 lists the suggested extensions to IPP needed by the JDF Product Intent and/or Process Resource subset chosen. See the indicated attribute name and IPP Description columns in Table 2 - IPP Attribute Mapping Table for more details. The Status column indicates the status of the proposal: Proposed to CIP4/PODi, Agreed by CIP4/PODi: [to be proposed to PWG](#), Proposed to PWG [\[spec\] \\$n.n](#), Approved by PWG.

Table 4 - Suggested extensions to IPP needed by the JDF Product Intent and/or Process Resource subset chosen

IPP attribute name	Status
adjust-profile (uri) [JT, DT, PO]	Proposed to CIP4/PODi
adjust-hue (integer(-180:180)) [JT, DT, PO]	Proposed to PWG
black-overprint (type2 keyword) - add a 'black-overprint-pdl' value.	
edge-to-edge (type2 keyword) [JT, DT, PO] - renamed from bleed-edge-printing	Agreed by CIP4/PODi: to be proposed to PWG
additional "highlight-colorant" values to agree with JDF/1.1: buff, gold, goldenrod, gray, ivory, multicolor, mustard, orange, pink, white	Proposed to CIP4/PODi
job-client-id (name(MAX)) [JD]	ISSUE: Propose to PWG?
job-comment (text(MAX)) [JD]	Agreed by CIP4/PODi: to be proposed to PWG Proposed to CIP4/PODi
job-mandatory-attributes (1setOf type2 keyword) [JD]	Proposed to CIP4/PODi, Proposed to PWG [doc-obj] §6.2.2
media-brightness (integer(0:100) - member attribute of "media-col"	Proposed to CIP4/PODi
opi-image-insertion (type2 keyword) - add 'no-image' and 'embedded-and-insert' values?	Proposed to CIP4/PODi
"output-bin" new value: 'fit-media' - Printer selects an output bin based on the size of the media.	ISSUE: Should we propose to IPP WG?
"page-delivery" new value: 'fan-fold' - media alternates face-up and face-down each sheet.	ISSUE: Should we propose to IPP WG?
proof-print (collection) - add "proof-print-contact" (text(MAX)) member attribute	Proposed to CIP4/PODi
resample-method (type2 keyword) [JT, DT, PO]	Proposed to PWG
"sides" new values: 'one-sided-short-edge-back' and 'one-sided-long-edge-back'	ISSUE: Should we propose to IPP WG?
trapping (type2 keyword) - add 'graphics', 'images', and 'text' values?	Proposed to CIP4/PODi
EFI Image Quality - Black Detection [JT]	Proposed to CIP4/PODi
EFI Color – Spot Color Matching [JT]	Proposed to CIP4/PODi

4 CUPS Job Template extensions to IPP

The following attributes are listed in the "CUPS Implementation of IPP" document as CUPS extension Job Template attributes:

Table 5 - CUPS Job Template extensions to IPP

CUPS Attribute	OSDP JDF Spec
blackplot	No
brightness	No
columns	No
cpi	No
fitplot	No
gamma	No

CUPS Attribute	OSDP JDF Spec
hue	No
job-billing	Yes
job-hold-until (like IPP 1.1 except add HH:MM and HH:MM:SS GMT of next time)	Yes Hold Job
job-sheets (IPP 1.1 is singled valued whereas CUPS is 1setOf)	Yes Start, Separator, End Sheets
job-originating-host-name	Yes Job Created By
lpi	No
natural-scaling	No
page-bottom	No
page-label	No
page-left	No
page-right	No
page-set	No
page-top	No
penwidth	No
position	No
ppi	No
prettyprint	No
saturation	No
scaling	No
wrap	No

5 Attributes for the proposed PDC document

The following attributes are listed in the proposed PDC Document:

Table 6 - Attributes for the proposed PDC document

PDC Attribute	IPP Attribute	OSDP JDF Spec
form	media-col?	Yes Forms
media	media-col attribute's media-key member attribute	Yes Media
tray	media	Yes Input Tray Name
resolution	printer-resolution	No
orientation	orientation-requested	Yes Rotate Page
color/monochrome	---	No
copies	copies	Yes Number of Copies

6 References

[adm-ops]

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[color&img]

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CUPS

Common UNIX Printing System, <http://www.cups.org/>.

[doc-obj]

Hastings, T., and P. Zehler, "Internet Printing Protocol (IPP): Document Object", September 27, 2002, ftp://ftp.pwg.org/pub/pwg/ipp/new_DOC/IPP-Document-Object.doc, .pdf, .rtf work in progress to become IEEE-ISTO 5100.5-2001.

[EFI]

EFI Job Ticket Proposal 2002.

~~IEEE-ISTO 5100.1-2001~~ [finishing] [IEEE-ISTO 5100.1-2001](#)

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~~IEEE-ISTO 5100.4-2001~~ [override] [IEEE-ISTO 5100.4-2001](#)

"Internet Printing Protocol (IPP): Override Attributes for Documents and Pages", Herriot, R., and K. Ocke, February 7, 2001, <ftp://ftp.pwg.org/pub/pwg/standards/pwg5100.4.pdf>

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Previous version: version 1.3, March 11, 1999. See <http://www.pdfzone.com/resources/pdfspec13.html>

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PostScript @ Level 3 Reference Manual. <http://www.adobe.com/products/postscript/main.html>

~~IEEE-ISTO 5100.3-2001~~ [prod-print] [IEEE-ISTO 5100.3-2001](#)

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7 Change Log

Summary of changes in reverse chronological order:

7.1 Changes to make version 0.4, September 28, 2002:

1. Added Brief Descriptions of all of the IPP attributes.

2. Added the IPP attributes in [prod-print2] and [doc-obj].
3. Re-calculated the percentages of IPP covered in the mappings by counting all collection member attributes as well as the top level attributes.

7.2 Changes to make version 0.3, September 24, 2002:

1. Added Product Intent mapping.
2. Added the percentages of IPP covered by the other mappings.

7.3 Changes to make version 0.5, October 5, 2002:

1. Added PODi column
2. Updated OSDP JDF Spec column to include (X) per PODi meeting
3. Started updating JTAPI column per 01Oct FSG Job Ticket working group meetings (updated up through cover-front)
4. Added JDF Process Resource column and updated per OSDP JDF Spec

7.4 Changes to make version 0.6 October 14, 2002:

1. Added (Mn) notation to indicate the attributes for which “multi-document-handling” only affects page numbering (job as a whole or each individual document).
2. Corrected the attributes flagged with (M).
3. Clarified that “media” and “media-col” are input media to the Printer, not output finished product media.
4. Started reviewing (X) in OSDP JDF Spec column during Digital Printing working group meeting at GraphExpo on 10/9 (reviewed up through last-document).

7.5 Changes to make version 0.7, October 16, 2002:

1. Instead of deprecating “ipp-attribute-fidelity”, made it work with the new “**job-mandatory-attributes**”.
2. In “**job-mandatory-attributes**”, added way to specify the member attribute in a collection attribute (“attr-name.member-name”).
3. Fixed “**pages-per-subset**” as Job level only. Clarified that it combines all Input Documents into a single contiguous Input-Pages stream and then subsets the stream into Output Documents. Fixed the reference.
4. Finished reviewing (X) in OSDP JDF Spec column during 15Oct Digital Printing working group meeting.
5. Continued updating JTAPI column per 15Oct FSG Job Ticket working group meetings (updated up through jog-offset).
6. Moved descriptions of (S), (M), (Mn), (X) keys into Column heading Description table.
7. Added descriptions of categories to Column heading Description table for PODi column.

7.6 Changes to make version 0.8, October 18, 2002:

1. Added Cat column and assigned a category to each feature/function in table during combined 18Oct PODi/CIP4 Digital Printing working group meeting.
2. Removed IPP Spec column from table because the information is available in the Brief Description of IPP attributes section.

7.7 Changes to make version 0.9, October 28, 2002:

1. Continued updating JTAPI column per 22 Oct FSG Job Ticket working group meetings (updated up through job-k-octets).
2. Added Priority column and assigned a priority to each feature/function in table during combined 28Oct PODi/CIP4 Digital Printing working group meeting.

7.8 Changes to make version 0.90 (0.10), November 01, 2002:

1. Added Medium Priority.

2. Added N/A and **Unknown** for JDF 1.1 Product Intent and JDF 1.1 Process Resource columns.
3. Per 10/30 PODi meeting, changed Priority of job-priority, media-back-coating, media-front-coating, media-recycled, media-grain, media-tooth, media-thickness, output-bin, print-quality to Medium.
4. Continued updating JTAPI column per 29 Oct FSG Job Ticket working group meeting (updated up through number-up)
5. Added IPP Attribute Description column and moved descriptions from end of document to table.
6. Added some fold, bind, and punch enum values from [finish~~ing~~2].
7. Clarified that left, top, right, and bottom in attribute values and descriptions mean as if the document were portrait, i.e., left means the y-axis which is always the long edge and bottom means the x-axis which is always the short edge.

7.9 Changes to make version 0.91 (0.11), November 08, 2002:

1. Filled in JDF Product Intent and JDF Process columns for High Priority features/functions per PODi JT meeting in SF on 04 and 05 Nov.
2. Added new (S), (P) and (N) keys for JDF Product Intent and JDF Process columns.
3. Continued updating JTAPI column per 07 Nov FSG Job Ticket working group meeting (updated up through sides)

7.10 Changes to make version 0.92 (0.12), November 18, 2002:

1. Finished updating JTAPI column per 12 Nov FSG Job Ticket working group meeting
2. Added name of process that resource in JDF 1.1 Process Resource column is input to or output from.
3. Added the IPP Color and Imaging Job Template attributes and their descriptions.

7.11 Changes to make version 0.93 (0.13), November 18, 2002:

1. Merged some of the IPP color and EFI values together - needs review by EFI and prioritization.
2. Explained the {} notation in the color and imaging attributes in the column heading descriptions up front.

7.12 Changes to make version 0.94 (0.14), November 28, 2002:

1. For Process Resource mapping, added the notation that several Processes are separated by commas (,) when the Resource is used by more than one Process.
2. Sorted all of the attributes, including the IPP color and imaging. Made all finishing attributes have "finishings" in column 1 so sort together.
3. Added the following attributes along with their Product Intent and Process mappings: media-brightness, original-requesting-user-name.
4. Merged the following EFI attributes with their corresponding IPP attributes: EFI Image Quality – Contrast -> adjust-contrast; EFI Image Quality – Brightness -> adjust-lightness; EFI Image Quality – Sharpness -> anti-aliasing; 1.1 ColorMode EFI Color - Color Mode -> color-effects-type; 1.1 Screen EFI Image Quality - Screening -> halftone-{graphics | images | text}; EFI Color – Rendering Style -> rendering-intent-{graphics| images| text}; EFI Color – RGB Source -> source-{cmyk | rgb}-{graphics | images | text}; EFI Image Quality - Trapping -> trapping.
5. Added prioritization for all of the IPP color and imaging attributes - mostly high - needs review by the PODi/CIP4 WGs.
6. Changed the priority of EFI Color - Spot Color Matching from Low to High (need IPP attribute for that too).
7. Added Product Intent mappings for: color-emulation, imposition-template, highlight-colorant, job-accounting-sheets, job-error-sheet, media-brightness, orientation-requested, original-requesting-user-name.
8. Added the Process Resource mappings for: color-depth-yyy, color-destination-profile-back, color-destination-profile-front, color-emulation, date-time-at-completed, date-time-at-processing, font-name-requested, highlight-colorant, highlight-map-color, imposition-template, job-accounting-sheets, job-error-sheet, job-state, job-state-message, media-brightness, media-grain, opi-image-insertion, opi-image-pre-scan, orientation-requested, original-requesting-user-name, printer-resolution, print-quality, rendering-intent-{graphics| images| text}, resource-cleanup, source-{cmy | gray}-{graphics | images | text}, source-{cmyk | rgb}-{graphics | images | text} (type3 keyword | name(MAX)), trapping, trap-width-fast, trap-width-slow, trc, EFI Image Quality - Black Detection.
9. Added Table 3 which contains suggested extensions to JDF/1.1 for JDF/1.2 needed by Product Intent and Process Resource mappings.

10. Fixed the following Product Intent and/or Process Resource mappings: attributes-charset, attributes-natural-language, color-effects-type, compression, copies, document-uri, job-hold-until, job-sheet-message, proof-print, printer-uri, requesting-user-name, separator-sheets, source-{cmy | gray}-{graphics | images | text}, source-{cmyk | rgb}-{graphics | images | text} (type3 keyword | name(MAX)).
11. Added or Improved the IPP Description for: black-overprint, color-effects-type, halftone-{graphics | images | text}, job-printer-uri, trapping.
12. Clarified that IPP “trapping” is talking about in-RIP trapping, while JDF is talking about PDL trapping, so a JDF boolean attribute extension is needed to control in-RIP trapping.
13. Updated the percentages of each type of attribute in the Legend Table at the beginning of section 1.

7.13 Changes to make version 0.95 **(0.15)**, December 02, 2002:

1. Fixed typos in JTAPI column

7.14 Changes to make version 0.96 **(0.17)**, December 03, 2002:

1. Added ISSUE for adjust-xxx attributes to have smaller group discuss and decide what makes sense to support.
2. Changed JDF Intent and Process proposed syntax for bleed-edge-printing.
3. Changed black-overprint description back to previous description without PostScript reference.
4. Added ISSUE for trapping attribute to add raster-based trapping controls to JDF.

7.15 **Changes to make version 0.97 (0.18), December 06, 2002:**

The following changes were made as a result of the PWG Semantic Model review, December 5, and the joint CIP4 Digital Printing WG, CIP4 Color Workflow WG, PODi Job Ticketing WG, and the FSG JTAPI review, December 6:

1. Clarified that we will still review proposed JDF/1.2 extensions for Medium priority attributes, so that they can get into JDF/1.2. But we will not review proposed JDF extensions for Low and Never Priority attributes, since they are not planned to get into JDF/1.2
2. “adjust-xxx”: After a lot of discussion of all of the “adjust-xxx” attributes, we separated the simple quick and dirty integer knob attributes from a single ICC Abstract Profile for **Preference Adjustment** attribute.
3. “adjust-xxx”: Changed the Process Resource column to **new (N)** integer (-100:100) attributes: **@ColorCorrectionParams/@CyanRed, @MagentaGreen, @YellowBlue, @Constrast, @Hue integer(-180:180), @Lightness, @Saturation.**
4. “adjust-xxx”: Changed the Product Intent column to **(P)**.
5. “adjust-xxx”: We changed the “adjust-xxx” attributes priorities from Medium to High (except for the new “adjust-hue” attribute) and the ICC Abstract Profile for Preferential Adjustment remains Medium.
6. “adjust-xxx”: The “adjust-xxx” integer knob attributes can be used in a Product Intent context using the Process Resource. So its flagged with the **(P)** indicator.
7. “anti-aliasing”: We removed the EFI Image Quality - Sharpness from the PODi column and added it at the end. EFI Sharpness isn’t anti-aliasing.
8. “anti-aliasing”: Changed the Product Intent column from **Unknown** to **(P)**.
9. “black-overprint”: Changed the Product Intent column from **(N)** to **(P)**.
10. “black-overprint”: Added ‘black-overprint-pdl’ as a third value for the IPP “black-overprint” attribute, which defers to the PDL setting for black overprint.
11. “black-overprint”: Clarified that the Process Resource column will not provide a mapping for the ‘black-overprint-off’ value of IPP “black-overprint” since it doesn’t seem useful to turn off the overprint on in the PDL.
12. “bleed-edge-printing”: Renamed this to “edge-to-edge” printing, since bleed involves trimming/cutting off some of the bled area, but IPP is dealing with printing into the unprintable area. Will propose the same change to IPP.
13. “edge-to-edge-printing”: Added this attribute with a JDF Product Intent mapping of **LayoutIntent/@NonPrintableMargins (N)** and a JDF Process Resource mapping of **DigitalPrintingParams/@NonPrintableMargins (N).**
14. “resample-method”: Added this attribute from the PWG Semantic Model review of the IPP Color and Imaging attributes. Needs review by the color experts.

15. “source-{cmy | gray}-{graphics | images | text}” and “source-{cmyk | rgb}-{graphics | images | text}”: Clarified that these attributes relates to the way the data was encoded by the source.

16. “EFI Image Quality – Sharpness”: Added to end of table. Need a description of it.

7.16 Changes to make version 0.971 (0.19), December 07, 2002:

1. Changed JDF/1.0 App F to actual JDF/1.0 IDPrinting mapping (not finished yet).

2. Reformatted values and member attributes into separate rows in the table so that alignment across the columns in maintained by MS-WORD. Revision marks not used for the IPP values, since they were already in the document. Documented the styles used to achieve indenting of member attributes and values in the Legend Table.

3. Copied the agreed extensions in version 0.97 to JDF/1.1 and IPP from Table 2 to Table 3 and Table 4, respectively.

4. Highlighted all of the **Unknown** entries like this as an indication of where more work is needed.

5. Started to put JDF data types on a separate line inside parens in the mapping columns. This reformatting makes it must easier to read.

6. Reformatted the XPath so that line breaks occur after each element.

7.17 Changes to make version 0.972 (0.20), December 10, 2002:

1. Updated JTAPI column per 10-Dec-2002 FSG Job Ticket working group meeting to reconcile differences between High Priority column and JTAPI column for JTAPI 1.0.

7.18 Changes to make version 0.21, December 17, 2002:

The following changes were made as a result of the joint CIP4 Digital Printing WG, CIP4 Color Workflow WG, PODi Job Ticketing WG, and the FSG JTAPI review, December 11 and 12:

1. Updated JTAPI column per 10-Dec-2002 FSG Job Ticket working group meeting to reconcile differences between High Priority column and JTAPI column for JTAPI 1.0.

2. Moved the JDF/1.0 IDPrinting mapping column to be the rightmost, since the least important.

3. Defined the Normal JT attr Style for the JT API column, so hanging indent, instead of width sensitive leading spaces.

4. Highlighted in green like this each JDF extension for color and made the corresponding change in the JDF/1.1a spec (see file JDF1.1a-4Sept2002-with-color-ext.doc) and also highlighted it like this

5. Added the following JDF/1.1a process resources to ColorIntent: ColorCorrectionParams, SeparationControlParams, ColorSpaceConversionParams, rather than attaching a process to the Intent Node.

6. Added the following new attributes to LayoutIntent: FinishedGrainDirector and NonPrintableMargins.

7. Filled in many mappings.