



Job Ticket Application Programming Interface (JTAPI)

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Abstract

The Free Standards Group (FSG) OpenPrinting Job Ticket Application Programming Interface (JTAPI) provides an abstract interface for applications to read, edit, and write industry standard document processing job tickets (defined outside this specification). This specification defines an abstract model of objects (jobs, documents, etc.) and their operations and attributes for document processing (e.g. scanning, printing, copying, etc.). This specification also defines C language bindings of this abstract object model (including standard header files).

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1. Introduction

This specification describes and defines the Free Standards Group (FSG) Open Printing Job Ticket Application Programming Interface (JTAPI) for the Free Standards Group. The JTAPI defines the abstract interface and does not define a specific job ticket, job ticket file format or job ticket syntax. An implementation of the JTAPI produces and/or consumes one or more standard or vendor specific job ticket formats.

This specification is intended for software developers, designers and architects that need to read and/or write job tickets.

The purpose of this specification is to define an open standard, the Job Ticket Application Programming, for open printing on Linux/Unix/Posix/Windows/Macintosh/Embedded platforms. A JTAPI implementation produces and consumes job tickets. The JTAPI is job ticket syntax neutral. The JTAPI isolates an application from the syntax of a job ticket to hide details and the structural complexity of specific job ticket along with interoperability between different job ticket file formats. The JTAPI abstract model is programming language neutral.

2. Background

The International Cooperation for the Integration of Process in Prepress, Press and Postpress (CIP4) is a joint initiative of vendors for the graphical arts industry [cip4]. CIP4 has published a Job Definition Format (JDF) specification. JDF is a comprehensive XML-based file format proposed industry standard for end-to-end job ticket specifications combined with a message description standard and message interchange protocol to cover all aspects of the commercial printing workflows.

JDF / 1.0 was published April of 2001. JDF / 1.1 was published in August 2002 [jdf]. JDF / 1.2 is due to be published the end of 2003. Yearly updates are foreseen as the needs of the printing industry evolve.

The Printer Working Group (PWG) is a joint initiative of printer vendors and print system providers to develop printing protocol standards for use on the Internet and within enterprises on their intranets [pwg]. The PWG has published the Internet Printing Protocol (IPP) in September 2000 [rfc2910, rfc2911]

The PWG is in the process of publishing the PWG Semantic Model which summarizes the printing semantics common to a number of printing protocols, centered on the IPP semantics [pwg-sm]. The PWG Semantic Model includes an XML Schema definition. Therefore, an XML Job Ticket using the semantics of the PWG Semantic Model is possible.

3. Overview

3.1 Print Environments

[Describe the Embedded Mobile, Desktop/Home, Office/Network, and Production environments.]

3.2 High Level Model

The JTAPI is object oriented extensible API. Figure 1.0 and 2.0 diagrams the JTAPI high level model and the relationship between JTAPI objects. A job ticket information object (JobTicketInfo) contains one job object (Job) where the job contains zero or more document objects (Document). The JobDocumentPage object is abstract and contains functionality that is common to jobs, documents, and specific pages (PageOverrides) in a job or document. Each of the other objects in the diagrams represents functionality that can be specified for the Job, Document, and PageOverrides objects. For example, the Media object represents the media that the job, document, or specific pages in the job or document is to be imaged/printed on. The section following the diagrams contains more detailed descriptions of each of the objects in the JTAPI model.

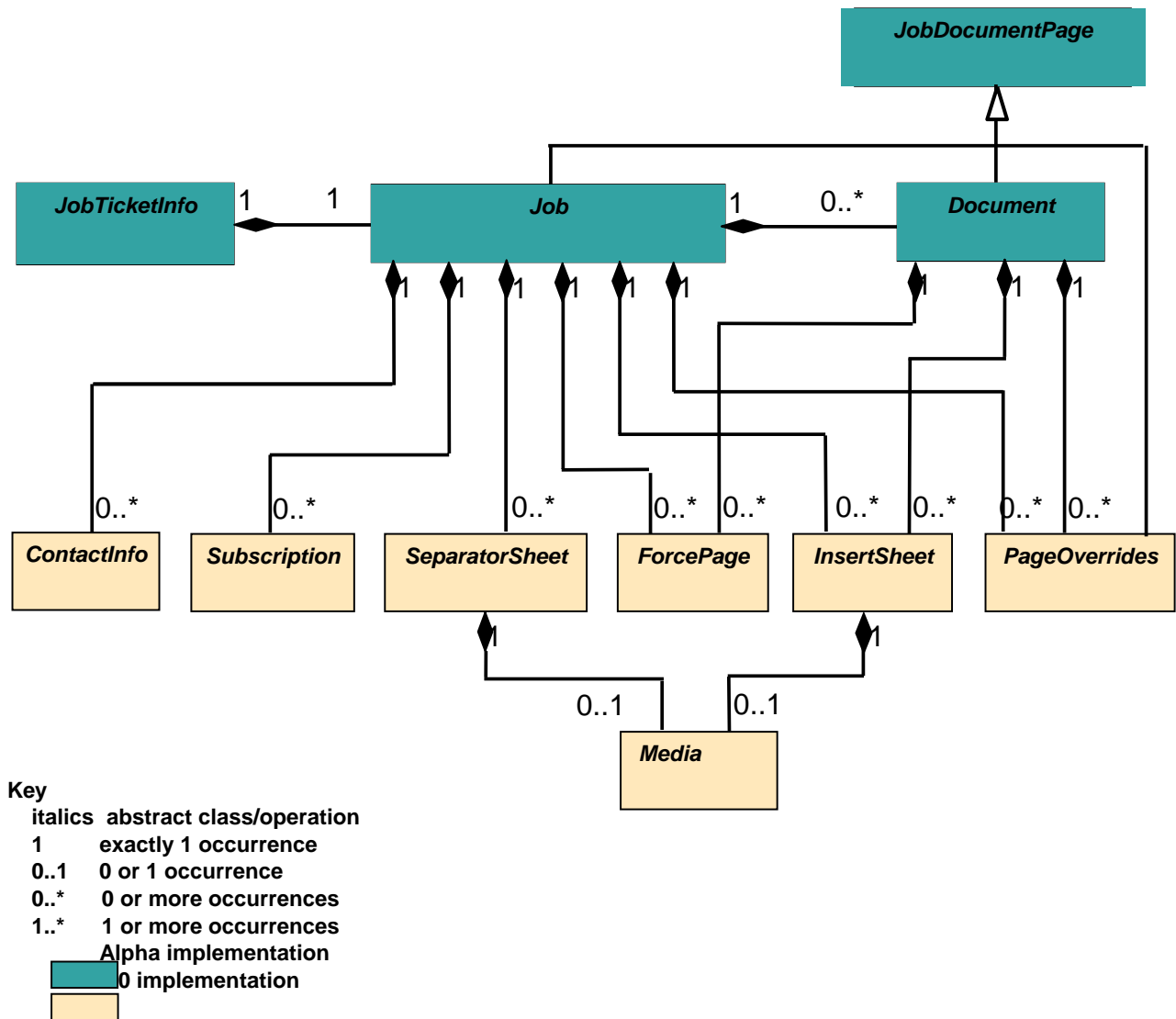


Figure 1.0 JTAPI High Level Object Model

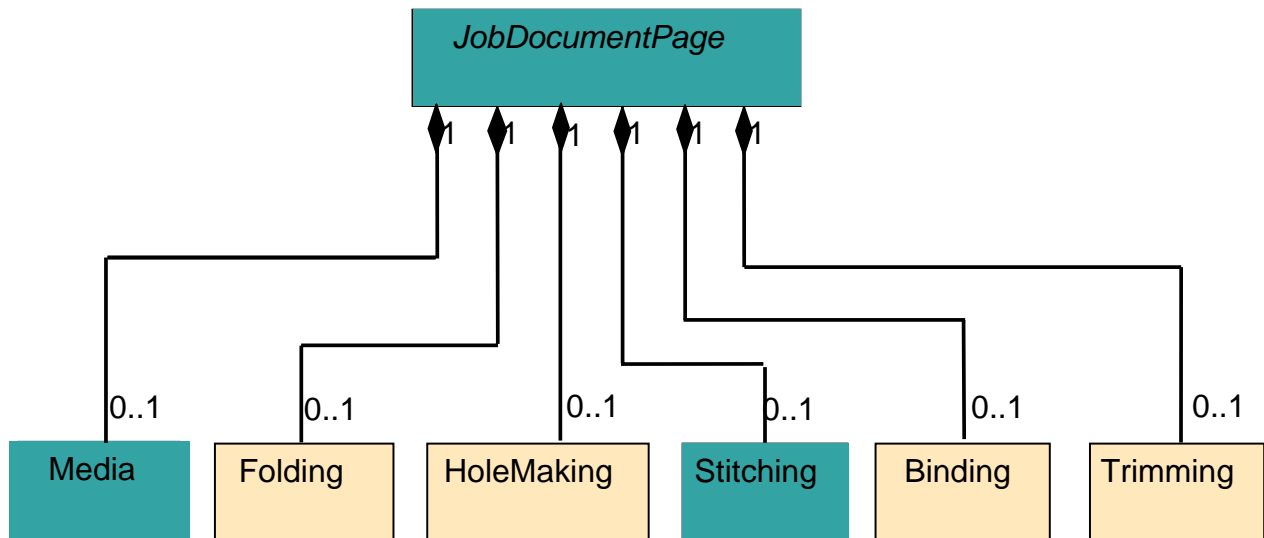


Figure 2.0 JTAPI JobDocumentPage High Level Object Model

3.3 Linking with JTAPI

The Job Ticket API can be provided in the form of a static link library, a dynamic link library and/or RPC client/services configuration. Linking of library and RPC details are operating system dependent and will not be elaborated in this specification. API interfaces for the three forms of the API implementation are discussed further in the following sections.

3.4 Conformance with JTAPI

A conforming library implementation of the Job Ticket API v1.0:

- (1) MUST support the abstract object model defined in Section 3 of this specification;
- (2) MUST publish one or more sets of standard header files verbatim from Section 4 or Section 5 of this specification;
- (3) MAY publish one or more sets of vendor extension header files for each supported language binding defined in this specification;
- (4) MUST support every required object and attribute (with at least one supported value) defined in this specification;
- (5) MAY support any optional object or attribute (with at least one supported value) defined in this specification;

- (6) SHOULD support read/write access to one or more industry standard job ticket formats (defined outside this specification);
- (7) MAY support read/write access to one or more vendor-specific job ticket formats (defined outside this specification).
- (8) MUST identify supported job ticket formats in any claim of conformance to this specification.

3.5 Internationalization

Each library implementation of the Job Ticket API MUST accept a charset tag [RFC2978] to specify the character set and encoding for all text strings in the JT_Charset. Each library implementation of the Job Ticket API MUST default to the UTF-8 [RFC2279] transform of [ISO10646] for text strings.

ISSUE: The Job Ticket API does NOT support the transfer of a language tag [RFC3066] to specify the natural language of text strings, although all XML-based job ticket formats support a language tag. Therefore the Job Ticket API only partially conforms to the IETF Policy on Character Sets and Languages [RFC2277].

3.6 Security

The Job Ticket API does NOT support the transfer of any user security credentials. Each implementation of the Job Ticket API is a library that may be statically or dynamically linked with an application program. The application program itself may be authenticated and authorized by the native host operating system (by means outside the scope of this specification) for read and/or write access to job tickets stored on local or network file systems. A conforming implementation MUST not store any sensitive information (password, private keys, etc). The JTAPI does not define or support encryption of a job ticket.

4. Application Programming Interface Summary

Object	Header	API Request	
---	fsgjt.h	fsgjtOpenJTAPI	void**
---	fsgjt.h	fsgjtFlushJTAPI	void*
---	fsgjt.h	fsgjtCloseJTAPI	void*
all	fsgjt.h	fsgjtDestroy	object
all	fsgjt.h	fsgjtGet	object, attribute
all	fsgjt.h	fsgjtSet	object, attribute
all	fsgjt.h	fsgjtSetIntegerAttribute	object, attribute, value
all	fsgjt.h	fsgjtSetObjectAttribute	object, attribute, value
all	fsgjt.h	fsgjtSetObjectAttributeList	object, attribute, list
all	fsgjt.h	fsgjtSetStringAttribute	object, attribute, value
all	fsgjt.h	fsgjtSetStringAttributeList	object, attribute, values
all	fsgjt_attribute.h	fsgjtNewAttribute	attribute, name, type, value
all	fsgjt_attribute.h	fsgjtDestoryAttribute	attribute
all	fsgjt_attribute.h	fsgjtAddExtensionValue	attribute, extensionValue
all	fsgjt_attribute.h	fsgjtAddValue	attribute, value
all	fsgjt_attribute.h	fsgjtGetName	attribute, name
all	fsgjt_attribute.h	fsgjtGetNextExtensionValue	attribute, nextValue, moreValues
all	fsgjt_attribute.h	fsgjtNumExtensionValues	attribute, numExtensionValues
all	fsgjt_attribute.h	fsgjtGetNumValues	attribute, numValues
all	fsgjt_attribute.h	fsgjtGetValueType	attribute, type
all	fsgjt_attribute.h	fsgjtIsExtensible	attribute, extensible
all	fsgjt_attribute.h	fsgjtReplaceExtensionValue	attribute, extensionValue
all	fsgjt_attribute.h	fsgjtReplaceValue	attribute, value
all	fsgjt_attribute.h	fsgjtResetToFirstValue	attribute
all	fsgjt_destination.h	fsgjtNewDestination	destinationObject, uri
document	fsgjt_document.h	fsgjtNewDocument	documentObject
document	fsgjt_document.h	fsgjtNewDocumentFromURI	documentObject, uri
stitching	fsgjt_stitching.h	fsgjtNewStitching	stitchingObject, stitchType
media	fsgjt_media.h	fsgjtNewMedia	mediaObject, name
job	fsgjt_job.h	fsgjtNewJob	jobObject
job	fsgjt_job.h	fsgjtNewJobFromDocument	jobObject, documentObj
job ticket info	fsgjt_job_ticket_info.h	fsgjtNewJobTicketInfo	jobTicketInfoObject, typeAndVersion
job ticket info	fsgjt_job_ticket_info.h	fsgJtNewJobTicketFromURI	jobTicketInfoObject, uri, typeAndVersion
job ticket info	fsgjt_job_ticket_info.h	fsgJtNewJobTicketFromBuffer	jobTicketInfoObject, buffer, bufferSize, typeAndVersion
job ticket info	fsgjt_job_ticket_info.h	fsgJtNewJobTicketFromJob	jobTicketInfoObject, job, typeAndVersion
job ticket info	fsgjt_job_ticket_info.h	fsgJtNewJobTicketToBuffer	jobTicketInfoObject, buffer, bufferSize
job ticket info	fsgjt_job_ticket_info.h	fsgJtNewJobTicketToURI	jobTicketInfoObject, uri

5. Top Level Application Programming Interface

The top level JTAPI is used for system level and/or a specific implementation of JTAPI to perform initialization and release of resources and/or system level protocols.

5.1 fsgjtOpenJTAPI

Syntax:	fsgjt_return_code_t fsgjtOpenJTAPI(jtapi_struct);		
Parameters:	void **	jtapi_struct	An optional opaque structure that to be returned by the specific instantiation of the JTAPI
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST		
Impact Level:	Library		
Description:	Initializes the JTAPI library and returns a structure that is utilized by the specific JTAPI library instantiation.		
Constraints, Limitation, Restrictions	This API call must be called before calling any other JTAPI calls.		
Also See:	fsgjtCloseJTAPI		

5.2 fsgjtFlushJTAPI

Syntax:	fsgjt_return_code_t fsgjtFlushJTAPI(jtapi_struct);		
Parameters:	void *	jtapi_struct	The opaque structure that was returned from the fsgjtOpenJTAPI call for this specific instantiation of the JTAPI
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR		
Impact Level:	Library		
Description:	Releases all objects and dynamic memory allocations and closes any I/O channels associate with this session.		
Constraints, Limitation, Restrictions			
Also See:	fsgjtCloseJTAPI		

5.3 fsgjtCloseJTAPI

Syntax:	fsgjt_return_code_t fsgjtCloseJTAPI(jtapi_struct);		
Parameters:	void *	jtapi_struct	The opaque structure that was returned from the fsgjtOpenJTAPI call for this specific instantiation of the JTAPI
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST		
Impact Level:	Library		
Description:	Releases the JTAPI library, removes any dynamic memory allocations and closes any I/O channels. This call will execute an fsgjtFlushJTAPI call.		
Constraints, Limitation, Restrictions	This API call must be called after calling any other JTAPI calls.		
Also See:	fsgjtOpenJTAPI		

6. Functional Level Application Programming Interface

Functional level JTAPI calls for used to create, manipulate and store job tickets. The API's are segment into generic API calls that are useable for any object, the attribute API calls that useable for any attribute and, finally, API calls for specific objects.

6.1 fsgjtDestroy

Syntax:	fsgjt_return_code_t fsgjtDestroy(object);		
Parameters:	fsgjt_object_t	Object	Pointer to the object to free.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT		
Impact Level:	Object		
Description:	Free the allocated memory used by an object.		
Constraints, Limitation, Restrictions	“fsgjtDestory MUST be called to free each object allocation during session, otherwise memory leaks will occur. Before calling fsgitCloseJTAPI, fsghjtDestory MUST be called to free each object allocation during session. Destroying higher level objects will automatically destroy lower level objects.		
Also See:	fsgjtFlushJTAPI		

6.2 fsgjtGet

Syntax:	fsgjt_attribute_t fsgjtGet(object, attribute);		
Parameters:	fsgjt_object_t	object	Pointer to the object from which to get the attribute.
	char *	attribute	Name of the attribute to get.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Get the attribute of the specified object having the provided name.		
Constraints, Limitation, Restrictions			
Also See:			

6.3 fsgjtSet

Syntax:	fsgjt_return_code_t fsgjtSet(object, attribute);		
Parameters:	fsgjt_object_t	object	Pointer to the object in which to set the attribute
	char *	attribute	Attribute to set
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Set the provided attribute of the provided object.		
Constraints, Limitation, Restrictions			
Also See:	Is there a Clear Function or should this function be Set to logic value (T/F)?		

6.4 fsgjtSetIntegerAttribute

Syntax:	fsgjt_return_code_t fsgjtSet(object, attribute, value);		
Parameters:	fsgjt_object_t	object	Set the integer-attribute for this object.
	char*	attribute	Integer-Attribute to set.
	fsgjt_int32_t	value	New value for the integer-attribute.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Convenience function for setting an integer-attribute to the provided value. (Internally, this function calls the fsgjtSet () function.)		
Constraints, Limitation, Restrictions			
Also See:			

6.5 fsgjtSetObjectAttribute

Syntax:	fsgjt_return_code_t fsgjtSetObjectAttribute(object, attribute, value);		
Parameters:	fsgjt_object_t	object	Object to retrieve object-attribute from.
	char *	attribute	Object-Attribute of object to set.
	fsgjt_object_t	value	New value for the object-attribute.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Convenience function for setting an object-attribute to the provided value. (Internally, this function calls the fsgjtSet () function.)		
Constraints, Limitation, Restrictions			
Also See:			

6.6 fsgjtSetObjectAttributeList

Syntax:	fsgjt_return_code_t fsgjtObjectAttributeList(object, attribute, list);		
Parameters:	fsgjt_object_t	object	Object to retrieve attribute from.
	char*	attribute	Object-Attribute-List of object to set.
	fsgjt_object_t*	list	List of values for the object-attribute-list.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Convenience function for setting an integer attribute to the provided value. (Internally, this function calls the fsgjtSet () function.)		
Constraints, Limitation, Restrictions			
Also See:			

6.7 fsgjtSetStringAttribute

Syntax:	fsgjt_return_code_t fsgjtSetStringAttribute(object, attribute, value);		
Parameters:	fsgjt_object_t	object	Object to retrieve attribute from.
	char*	attribute	String-Attribute of object to set.
	char*	value	New value to set for string-attribute.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Convenience function for setting an string-attribute to the provided value. (Internally, this function calls the fsgjtSet () function.)		
Constraints, Limitation, Restrictions			
Also See:			

6.8 fsgjtSetStringAttributeList

Syntax:	fsgjt_return_code_t fsgjtSetStringAttributeList(object, attribute, list);		
Parameters:	fsgjt_object_t	object	Object to retrieve attribute from.
	char*	attribute	String-Attribute-List of object to set.
	char**	list	List of new values for the string-attribute-list.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Convenience function for setting an string-attribute-list to the provided value. (Internally, this function calls the fsgjtSet () function.)		
Constraints, Limitation, Restrictions			
Also See:			

7. Attribute Level Application Programming Interfaces

Attribute level JTAPI calls for used to create, manipulate and store object attributes.

7.1 fsgjtNewAttribute

Syntax:	fsgjt_return_code_t fsgjtNewAttribute(object, name, type, value);		
Parameters:	fsgjt_object_t	object	Object to add new attribute to
	char*	name	Name for the new attribute to create
	char*	type	Type for the new attribute
	void*	value	Pointer to the value for this attribute
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Creates a new object attribute have the provided attribute name, value type, and value. The value must not be an extension value.		
Constraints, Limitation, Restrictions			
Also See:			

7.2 fsgjtDestoryAttribute

Syntax:	fsgjt_return_code_t fsgjtDestory(object, attribute);		
Parameters:	fsgjt_object_t	object	Object to destroy attribute from.
	char*	attribute	Attribute to free.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Free the memory used by the attribute		
Constraints, Limitation, Restrictions			
Also See:			

7.3 fsgjtAddExtensionValue

Syntax:	fsgjt_return_code_t fsgjtAddExtensionValue(object, attribute, extensionValue);		
Parameters:	fsgjt_object_t	object	Object to add attribute extension to.
	char*	attribute	Attribute to add attribute extension to.
	void*	extensionValue	Attribute extension value to add
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Add an additional value that is an extension to an attribute of the object.		
Constraints, Limitation, Restrictions			
Also See:			

7.4 fsgjtAddValue

Syntax:	fsgjt_return_code_t fsgjtAddValue(object, attribute, value);		
Parameters:	fsgjt_object_t	object	Object to add attribute value to.
	char*	attribute	Attribute to add attribute value to.
	void*	value	Attribute value to add
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Add an additional value, that is not an extension, to the attribute of the object.		
Constraints, Limitation, Restrictions			
Also See:			

7.5 fsgjtGetName

Syntax:	fsgjt_return_code_t fsgjtGetName(object, attribute, name);		
Parameters:	fsgjt_object_t	object	Object to retrieve attribute name from.
	char*	attribute	Attribute of object to retrieve name from.
	char**	name	Name of the attribute
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Get the name of the attribute of the object.		
Constraints, Limitation, Restrictions			
Also See:			

7.6 fsgjtGetNextExtensionValue

Syntax:	fsgjt_return_code_t fsgjtGetNextExtensionValue(object, attribute, nextExtensonValue, moreValues);		
Parameters:	fsgjt_object_t	object	Object to retrieve extension value from.
	char*	attribute	Attribute of object to get extension value from.
	char**	nextExtensonValue	Pointer to next value that is an extension.
	fsgjt_present_t	moreValues	moreValue is “on” if there are more values for the attribute other than the value being returned.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Return the attribute’s next value if it is an extension.		
Constraints, Limitation, Restrictions			
Also See:			

7.7 fsgjtGetNextValue

Syntax:	fsgjt_return_code_t fsgjtGetNextValue(object, attribute, nextValue, moreValues)		
Parameters:	fsgjt_object_t	object	Object to retrieve value from.
	char*	attribute	Attribute of object to get value from.
	char**	nextValue	Pointer to next value that is not an extension.
	fsgjt_present_t	moreValues	moreValue is “on” if there are more values for the attribute other than the value being returned.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Return the attribute’s next value if it is not an extension.		
Constraints, Limitation, Restrictions			
Also See:			

fsgjtNumExtensionValues

Syntax:	fsgjt_return_code_t fsgjtNumExtensionValues(object, attribute, numExtensionValues);		
Parameters:	fsgjt_object_t	object	Object whose number of extension values for the attribute will be returned.
	char*	attribute	Attribute of object whose number of extension values will be returned.
	fsgjt_int32_t*	numExtensionValues	Number values that are extensions.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Get the number of values, that are extensions, that the attribute of the object contains.		
Constraints, Limitation, Restrictions			
Also See:			

7.8 fsgjtGetNumValues

Syntax:	fsgjt_return_code_t fsgjtNumValues(object, attribute, numValues);		
Parameters:	fsgjt_object_t	object	Object whose number of values not extensions for the attribute will be returned.
	char*	attribute	Attribute of object whose number of values not extensions will be returned.
	fsgjt_int32_t*	numValues	Number values that are not extensions.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Get the number of values, that are not extensions, that the attribute of the object contains.		
Constraints, Limitation, Restrictions			
Also See:			

7.9 fsgjtGetValueType

Syntax:	fsgjt_return_code_t fsgjtGetValueType(object, attribute, type);		
Parameters:	fsgjt_object_t	object	Object to retrieve attribute type from.
	char*	attribute	Attribute to retrieve attribute type from.
	char**	type	Type of the attribute value of the object
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Returns the type of the attribute's value of the object.		
Constraints, Limitation, Restrictions			
Also See:			

7.10 fsgjtIsExtensible

Syntax:	fsgjt_return_code_t fsgjtIsExtensible(object, attribute, extensible);		
Parameters:	fsgjt_object_t	object	Object of attribute to check to see if it is extensible
	char*	attribute	Attribute to check to see if it is extensible
	fsgjt_boolean_t*	extension	Pointer to true if this attribute is extensible, otherwise false.
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Return true if the attribute of the object is extensible, which means that a value other than a pre-defined value can be added. Returns false if no value other than a pre-defined value can be added.		
Constraints, Limitation, Restrictions			
Also See:			

7.11 fsgjtReplaceExtensionValue

Syntax:	fsgjt_return_code_t fsgjtReplaceExtensionValue(object, attribute, value);		
Parameters:	fsgjt_object_t	object	Object of attribute to replace extensible value
	char*	attribute	Attribute to replace extensible value
	char*	extensionValue	Pointer to extension attribute value to replace
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Attribute		
Description:	Replaces the existing extension value(s) for the attribute of the object with the provided value that is an extension. The non-extension value(s) of this attribute of the object are not affected.		
Constraints, Limitation, Restrictions			
Also See:			

7.12 fsgjtReplaceValue

Syntax:	fsgjt_return_code_t fsgjtReplaceValue (object, attribute, value);		
Parameters:	fsgjt_object_t	object	Object of attribute to replace value
	char*	attribute	Attribute to replace value
	char*	value	Pointer to attribute value to replace
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Replaces the existing non-extension value(s) for the attribute of the object with the provided value that is not an extension. The extension value(s) of this attribute of the object are not affected.		
Constraints, Limitation, Restrictions			
Also See:			

7.13 fsgjtResetToFirstValue

Syntax:	fsgjt_return_code_t fsgjtResetToFirstValue(object, attribute);		
Parameters:	fsgjt_object_t	object	Object of attribute to reset value
	char*	attribute	Attribute to reset value
Return Status:	FSGJT_OK FSGJT_INTERNAL_ERROR FSGJT_INVALID_REQUEST FSGJT_INVALID_OBJECT FSGJT_NOT_SUPPPORTED		
Impact Level:	Object		
Description:	Set the iterators to point to the first non-extension value and the first extension value of the attribute of the object.		
Constraints, Limitation, Restrictions			
Also See:			

8. Object Level Application Programming Interfaces Conformance Summary

Based on the characteristics, resource limitations and print capabilities of the separate print environments the level of support for individual JTAPI objects is outlined in Table 5.0. The print environment type and the specific conformance version will be identified as part of the JTAPI initialization process.

JTAPI Object Conformance for Print Environments

<i>Object</i>	<i>Conformance – 1.0 Release (Must, Should, May)</i>			
	<i>Embedded/Mobile</i>	<i>Desktop/Home</i>	<i>Office/Network</i>	<i>Production</i>
Binding	May	May	May	Must
ContactInfo	May	May	May	Must
Document	Must	Must	Must	Must
Folding	May	May	May	Must
ForcePage	May	May	May	Must
HoleMaking	May	May	May	Must
InsertSheet	May	May	May	Must
Job	Must	Must	Must	Must
JobDocument Page	Must	Must	Must	Must
JobTicketInfo	Must	Must	Must	Must
Media	Must	Must	Must	Must
PageOverrides	May	May	May	Must
SeparatorSheet	May	May	May	Must
Stitching	May	May	May	Must
Subscription	May	May	May	Must
Trimming	May	May	May	Must

9. Binding

A Binding object specifies how a job, document, or range of pages in a job or document is to be bound. A Binding object contains attributes that specify the type of binding to perform (such as, tape or soft cover), and the edge of the sheet to bind.

9.1 Binding Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
Binding					May	May	May	Must
binding-reference-edge					May	May	May	Must {Right, Left}
binding-type					May	May	May	May

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

10. ContactInfo

A ContactInfo object contains information about a person who is to be contacted regarding the job. A ContactInfo object contains attributes that specify the name, address, company, URIs, and role of the person who is to be contacted. The role of the person identifies why the person is interested in the job. Some typical roles are Administrator, Customer, Delivery, and Approver.

10.1 ContactInfo Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
ContactInfo					May	May	May	Must
contact-info-address					May	May	May	Must
contact-info-company					May	May	May	Must
contact-info-contact-uri					May	May	May	Must <Mail-To Scheme>
contact-info-name					Must	Must	Must	Must
contact-info-types					Must {SENDER }	Must {SENDER }	Must {SENDER }	Must {SENDER, CUSTOMER, DELIVERY, PICKUP, ACCOUNTING }

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

11. Document

Each Document object in a job references one or more files to be processed. A Document object contains attributes that describe the document and how it is to be processed.

Note: For the Alpha implementation, only one file per Document object is supported.

11.1 Document Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
Document					Must	Must	Must	Must
document-uri					Must	Must	Must	Must

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

12. Folding

A Folding object contains information that specifies how a job, document, or range of pages in a job or document is to be folded. A Folding object contains attributes that specify the type of folding (such as, z-fold and saddle fold) and the reference edge from which to perform the folding operation.

12.1 Folding Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
Folding					May	May	May	Must
folding-reference-edge					May	May	May	May
folding-type					May	May	May	Must {SADDL E}

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

13. ForcePage

A ForcePage object is used to specify that a single page, identified by an input page number, is imaged on a specific side (front or back) and/or specific cell of the sheet. Forcing a page is typically performed when the first page of each chapter is to be imaged on the front side of a sheet, also known as "chapter starts". A ForcePage object can also be used to only image on the back side of a back cover. ForcePage is only valid when two-sided printing is specified.

ForcePage will force a page to be imaged on the specified side even if the page would normally fall on the other side. For example, if the second page would normally be imaged on the back side of the sheet and it is to be forced to the front side, then the back side of the current sheet is left blank and the second page is imaged on the next sheet.

13.1 ForcePage Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
ForcePage					May	May	May	Must

Not-Set is required for all attribute implemented. "{-}" indicates value the must be supported.

14. HoleMaking

A HoleMaking object specifies how a job, document, or range of pages in a job or document is to be punched or drilled. A HoleMaking object contains attributes that specify the number of holes to punch and the edge of the sheet to punch.

14.1 HoleMaking Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
HoleMaking					May	May	May	Must
hole-making-reference-edge					May	May	May	Must {LEFT, RIGHT}
hole-making-count					May	May	May	May

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

15. InsertSheet

An InsertSheet object specifies information that describes an insert sheet that is to be inserted in the job or document. An insert sheet will not be imaged/printed with content from the document data stream.

An InsertSheet object contains attributes that specify where the insert sheet is to be placed in the job or a document (before or after specific page numbers), the media that is to be used for the insert sheet, the number of insert sheets to insert, and other insert sheet information.

15.1 InsertSheet Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
InsertSheet					May	May	May	Must
insert-sheet-content					May	May	May	Must
insert-sheet-count					Must	Must	Must	Must
insert-sheet-media					May	May	May	Must
insert-sheet-pages					Must	Must	Must	Must
insert-sheet-position					Must	Must	Must	Must

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

16. Job

A Job object specifies a description of a job and how it is to be processed. A Job object contains attributes that specify job-name (description) and number-of-copies (processing).

16.1 Job Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
Job					Must	Must	Must	Must
job-billing-code					May	May	May	Must
job-binding					May	May	May	Must
job-client-id					May	May	Must	Must
job-collate					May	Must	Must	Must
job-comment					May	May	Must	Must
job-compression					Must {NONE}	Must {NONE}	Must {NONE}	Must {NONE}
job-contact-info					May	May	May	Must
job-copies					May	May	Must	Must
job-create-user-name					Must	Must	Must	Must
job-destination-uri					Must {Single-Valued}	Must {Single-Valued}	Must {Single-Valued}	Must {Single-Valued}
job-document-format					Must {application/octet-stream}	Must {application/octet-stream}	Must {application/octet-stream}	Must {application/octet-stream}
job-document-natural-language					May	Must	Must	Must
job-feed-orientation					May	May	May	Must
job-fit-policy					Must {FIT_TO_PAGE}	Must {FIT_TO_PAGE}	Must {FIT_TO_PAGE}	Must {FIT_TO_PAGE}
job-folding					May	May	May	Must
job-force-pages					May	May	May	Must
job-hold					May	May	May	Must
job-hole-making					May	May	May	Must
job-image-alignment-x					May	May	May	Must
job-image-alignment-y					May	May	May	Must
job-image-shift-back-x					May	May	May	Must

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
job-image-shift-back-y					May	May	May	Must
job-image-shift-front-x					May	May	May	Must
job-image-shift-front-y					May	May	May	Must
job-include-pages					May	May	May	Must
job-insert-sheets					May	May	May	Must
job-jog-offset					May	May	May	Must
job-margin-bottom					Must	Must	Must	Must
job-margin-left					Must	Must	Must	Must
job-margin-top					Must	Must	Must	Must
job-margin-right					Must	Must	Must	Must
job-media					Must	Must	Must	Must
job-message-to-operator					May	May	May	Must
job-name					May	May	Must	Must
job-number-up-x					May	Must	Must	Must
job-number-up-y					May	Must	Must	Must
job-output-bin-name					May	Must	Must	Must
job-output-pages					Must	Must	Must	Must
job-page-delivery					May	May	May	Must
job-rotation					May	Must	Must	Must
job-presentation-direction					May	May	May	Must
job-priority					Must	Must	Must	Must
job-print-quality					Must	Must	Must	Must
job-resolution-x					Must	Must	Must	Must
job-resolution-y					Must	Must	Must	Must
job-scaling-factor-x					Must	Must	Must	Must
job-scaling-factor-y					May	May	May	Must
job-separator-sheets					May	May	Must	Must
job-sides					May	Must	Must	Must
job-stitching					May	May	Must {{CORNER, TOP-LEFT}}	Must
job-subscriptions					May	May	May	Must
job-trimming					May	May	May	Must

Not-Set is required for all attribute implemented. “{-}“ indicates value the must be supported.

17. JobDocumentPage

JobDocumentPage is an abstract object that contains attributes that can be specified for the Job, Document, or PageOverrides objects. For example, one media can be specified for the entire job, which can be overridden by another media for a specific document in the job, which can be overridden by another media for specific pages in the job or document.

17.1 JobDocumentPage Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
<i>JobDocument Page</i>					Must	Must	Must	Must

Not-Set is required for all attribute implemented. “{-}“ indicates value the must be supported.

18. JobTicketInfo

A JobTicketInfo object specifies job ticket information, such as a comment describing the job ticket, the version of the JTAPI, the type or syntax (JDF, PWG, etc.) of job ticket, and other job ticket information. A JobTicketInfo object does not contain job processing information.

18.1 JobTicketInfo Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
<i>JobTicketInfo</i>					Must	Must	Must	Must
jt-api-charset					Must {“UTF8”}	Must {“UTF8:”}	Must {“UTF8”}	Must {“UTF8”}
jt-api-version					Must	Must	Must	Must
Jt-charset					Must	Must	Must	Must
jt-comment					May	Must	Must	Must
jt-mandatory-attributes					Must	Must	Must	Must
jt-type-version					Must	Must	Must	Must
jt-length-units					Must {MICRO}	Must {MICRO}	Must {MICRO}	Must {MICRO}

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

19. Media

A Media object specifies a media that is to be used when printing the job, document, or a range of pages in the job or document. A Media object contains attributes that specify a name that describes the media dimensions (for example, na_letter_8.5x11in), the color of the media, the actual media dimensions, and other media information.

19.1 Media Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
Media					Must	Must	Must	Must
media-back-coating					May	May	May	Must
media-color					May	May	Must	Must
media-color-name					May	May	Must	Must
media-dimension-name					Must	Must	Must	Must
media-front-coating					Must	Must	Must	Must
media-hole-count					May	May	May	Must
media-input-tray-name					May	May	Must	Must
media-manual-feed					Must	Must	Must	Must
media-preprinted					May	May	May	Must
media-recycled					May	May	May	Must
media-recycled-percentage					May	May	May	Must
media-set-count					May	May	May	Must
media-type					Must	Must	Must	Must
media-weight					May	May	May	Must
media-x-dimension					May	May	May	May
media-y-dimension					May	May	May	May

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

20. PageOverrides

A PageOverrides object specifies a single page number or a range of consecutive page numbers, and the attributes that override the corresponding attributes that are specified in the Job or Document object that contains the PageOverrides object.

20.1 PageOverrides Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
<i>PageOverrides</i>					May	May	May	Must

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

21. SeparatorSheet

A SeparatorSheet object specifies information that describes separator sheets. A separator sheet will not be imaged and/or printed with content from the document data stream.

A SeparatorSheet object contains attributes that specify where the separator sheets are to be placed (before or after the job or document, between copies, etc.), the media that is to be used for the separator sheet, and a message that is to be imaged/printed on the separator sheet.

21.1 SeparatorSheet Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
SeparatorSheet					May	May	May	Must
separator-sheet-media					May	May	May	Must
separator-sheet-message					May	May	May	Must
separator-sheet-type					Must {BEFORE _JOB}	Must {BEFORE _JOB}	Must {BEFORE _JOB}	Must

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

22. Stitching

A Stitching object specifies how a job, document, or range of pages in a job or document is to be stapled and/or stitched. A Stitching object contains attributes that specify the number of stitches, the type of stitch (for example, corner, edge, or saddle), the edge of the sheet to stitch, and other stitching information.

22.1 Stitching Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
Stitching					May	May	May	Must
stitching-angle					May {tbd}	May {tbd}	May {tbd}	Must {tbd}
stitching-count					May	May	May	Must {1, 2}
stitching-reference-edge					May	May	May	Must {LEFT, RIGHT}
stitching-type					Must {CORNE R, NONE}	Must {CORNE R, NONE}	Must {CORNE R, NONE}	Must

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

23. Subscription

A Subscription object specifies subscription for notification of events that are to be sent to a specific destination. A Subscription object contains attributes that specify the events to be sent, the character set, the language, the comment text to be included in the notification, delivery method (for example, email), and other subscription information.

23.1 Subscription Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
<i>Subscription</i>					May	May	May	Must
subscription-charset					Must {UTF-8}	Must {UTF-8}	Must {UTF-8}	Must {UTF-8}
subscription-comment					May	May	May	Must
subscription-events					Must {tbd}	Must {tbd}	Must {tbd}	Must {tbd}
subscription-job-attributes					May	May	May	May
subscription-language					May	May	May	May
subscription-send-to-uri					Must {tbd}	Must {tbd}	Must {tbd}	Must {tbd}

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

24. Trimming

A Trimming object specifies how a job, document, or range of pages in a job or document are to be trimmed. A Trimming object contains an attribute that specifies the type of trimming to perform (for example, default trimming, face, gutter, or tab) and other trimming information.

24.1 Trimming Attributes & Conformance

<i>Attribute</i>	<i>Range</i>	<i>Units</i>	<i>Type</i>	<i>Relation</i>	<i>E/M</i>	<i>D/H</i>	<i>O/N</i>	<i>Prod</i>
<i>Trimming</i>					May	May	May	Must
trimming-type					Must {NONE, TRIM}	Must {NONE, TRIM}	Must {NONE, TRIM}	Must {NONE, TRIM}

Not-Set is required for all attribute implemented. “{-}” indicates value the must be supported.

- 25. Static Library Configuration of JTAPI**
- 26. Dynamic Link Library Configuration of JTAPI**
- 27. RPC Configuration of JTAPI**

APPENDIX: A - Normative References

[ISO639] multi-part International Standard, presently consisting of [ISO639-1] and [ISO639-2].

[ISO639-1] Codes for the Representation of Names of Languages -- Part 1: Alpha-2 Code, ISO/IEC 639-1, 2000.

[ISO639-2] Codes for the Representation of Names of Languages -- Part 2: Alpha-3 Code, ISO/IEC 639-2, 1998.

[ISO3166] multi-part International Standard, presently consisting of [ISO3166-1] and [ISO3166-2].

[ISO3166-1] Codes for the Representation of Names of Countries and their Subdivisions, Part 1: Country Codes, ISO/IEC 3166-1, 1997.

[ISO3166-2] Codes for the Representation of Names of Countries and their Subdivisions, Part 2: Country Subdivision Codes, ISO/IEC 3166-2, 1998.

[ISO10646] multi-part International Standard, presently consisting of [ISO10646-1] and [ISO10646-2].

[ISO10646-1] Information Technology - Universal Multiple-Octet Code Character Set (UCS) - Part 1: Architecture and Basic Multilingual Plane, ISO/IEC 10646-1, September 2000.

[ISO10646-2] Information Technology - Universal Multiple-Octet Code Character Set (UCS) - Part 2: Supplemental Planes, ISO/IEC 10646-2, January 2001.

[RFC2119] Bradner. Key words for use in RFCs to Indicate Requirement Levels, RFC 2119, March 1997.

[RFC2396] Berners-Lee, Fielding, Masinter. URI Generic Syntax, RFC 2396, August 1998.

[RFC2910] Herriot, R., Butler, S., Moore, P., Turner, R., "Internet Printing Protocol/1.1: Encoding and Transport", RFC 2910, September 2000.

[RFC2911] R. deBry, T. Hastings, R. Herriot, S. Isaacson, P. Powell, "Internet Printing Protocol/1.10: Model and Semantics", RFC 2911, September 2000.

[RFC2978] Freed, Postel. IANA Charset Registration Procedures, RFC 2978, October 2000.

[RFC3066] Alvestrand. Tags for the Identification of Languages, RFC 3066, January 2001.

APPENDIX: A - Informative References

[cip4] The International Cooperation for the Integration of Processes in Prepress, Press and Postpress (CIP4) located at <http://www.cip4.org/>

[jdf] The Job Definition Format (JDF), version 1.1, August 2002. Set the Document tab at: <http://www.cip4.org>

[pwg] The Printer Working Group located at <http://www.pwg.org/>

[pwg-sm] Zehler, P., Hastings, T., and Albright, S., Printer Working Group (PWG): Semantic Model, work in progress at <ftp://ftp.pwg.org/pub/Semantic-Model/>

[IANA-CHAR] IANA Registry of Character Sets [ftp://ftp.iana.org/assignments/charset-reg/...](ftp://ftp.iana.org/assignments/charset-reg/)

[IANA-MIME] IANA Registry of MIME Media Types [ftp://ftp.iana.org/assignments/media-types/...](ftp://ftp.iana.org/assignments/media-types/)

[RFC2277] Alvestrand. IETF Policy on Character Sets and Languages, RFC 2277, January 1998.

[RFC2279] Yergeau. UTF-8, a Transformation Format of ISO 10646, RFC 2279, January 1998.

APPENDIX: C - Terminology and Acronyms

Conformance Terminology

In this document, the uppercase terms “MUST”, “MUST NOT”, “SHOULD”, “SHOULD NOT”, and “MAY” are intended to be interpreted as described in [RFC2119]

In this document, each conformance statement uses one of the terms:

Table 1 Conformance Statement Terms

<i>Term</i>	<i>Meaning</i>
MUST	Implementation support is required for conformance to this specification.
SHOULD	Implementation support is strongly recommended for conformance to this specification unless impractical (for example, memory limitations).
MAY	Implementation support is optional for conformance to this specification.

In this document, the term “support” is defined as:

Table 2 Conformance Support Terms

<i>Term</i>	<i>Meaning</i>
“support an operation”	An implementation MUST accept a syntactically correct instance of the operation (includes all required parameters) and MUST return one of the defined results for the invoked operation.
“support an object”	An implementation MUST accept a syntactically correct instance of the object (includes all required attributes), MUST locally instantiate the object and MUST return one of the defined results for the invoked operation.
“support an attribute”	An implementation MUST accept a syntactically correct instance of the attribute (includes a valid value) and MUST locally instantiate the attribute. Further, an implementation MUST accept at least one value (other than the empty value NOT_SET) defined for the given attribute.
Element	Object operation or attribute.

Other Terminology <all>*Table 3 Miscellaneous Terms*

<i>Term</i>	<i>Meaning</i>
Job Ticket	A set of one or more job processing activities (e.g. stapling, binding, number of copies, insert sheet), contained within a file or stream, serialized into some file format (for example, the XML instance textual encoding of a CIP4 JDF Job Ticket).
Job	A set of one or more processing activities, contained within a “Job Ticket”, described by “Job Description” attributes, and processed according to “Job Processing” attributes.
Document	A single document to be processed, contained within a “Job”, described by “Document Description” attributes, and processed according to “Document Processing” attributes.
Document Processing	
Page	A single logical page in a source document. Multiple source pages may be included in a single “Impression” on a “Side” of a “Sheet”.
Sheet	A single physical piece of media.
Side	A single side (front or back) of “Sheet” of media.
Impression	A single image marked (by some means) on a “Side” of a “Sheet”.

Acronyms < All >*Table 4 Acronyms*

<i>Acronyms</i>	<i>Meaning</i>	<i>Source</i>
CIP4	International Cooperation for the Integration of Processes in Prepress, Press and Postpress	http://www.cip4.org/
JDF	Job Definition Format	Version 1.1, August 2002. See documentation tab at http://www.cip4.org/
PWG	Printer Working Group	http://www.pwg.org/

<i>Acronyms</i>	<i>Meaning</i>	<i>Source</i>
FSG	Free Standards Group	
FSG/OP	Free Standards Group – Open Printing	http://www.openprinting.org/
JTAPI	J ob T icket A pplication P rogramming I nterface	

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Changes

<i>Date</i>	<i>Affected Version</i>	<i>Author</i>	<i>Change</i>
08.12.03	0.30	G. Petrie	Added comments from T. Hastings in the introduction and reference sections.
08.12.03	0.30	G. Petrie	Added comments from I. McDonald in the reference section. Added comments and changes based on discussion from 08.12.03 weekly job-ticket meeting. Many section affected.
08.15.03	0.40	G. Petrie	Added comments and changes based on discussion from 08.12.03 weekly job-ticket meeting. Many section affected.
08.19.03	0.50	G. Petrie	Updated minor change to headings.
08.26.03	0.50 Claudia	G. Petrie	Added Sections 4.0, 4.1 and 4.2 from Claudia's version of 0.50, dated 08.19.03
08.28.03	0.55	G. Petrie	Edits and changes based on 08.28.03 weekly job-ticket meeting for Section 4.0, 4.1, 4.2. The addition table/figure labels and a table/figure table-of-content
10/15/03	0.77	G. Petrie	Updates to attribute compliance table based on 10.14.03 meeting. The addition of attribute #define/string-names to C language header section.
11.04.03	0.81	C. Alimpich	Added attributes/values to compliance table for SeparatorSheet, Stitching, Subscription, and Trimming objects. Removed header file contents (section 5.4).
11.11.03	0.82	G. Petrie	Re-arranged section 4.2. Added discussion table at end of file.
08.09.04	0.84	G. Petrie	Major rewrite of format