Subj: Assignment of IPP operation-ids, status codes, out-of-band values, and attribute group tags for IETF
           standards track documents
From: Tom Hastings
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This document is the central record for the assignment of codes for extensions to IPP/1.1, including both
[ipp-mod] and [ipp-pro]. These codes include: operation-ids, status codes, out-of-band values, and attribute
group tags. If multiple document allocate the same item, they are all listed (so we can update all of them,
in case of a change).

Highlight like this indicates things allocated after IPP/1.1.

ISSUE 01: Should we add enums to this document?

Agreed: Yes, I've added the "finishings" enum as a start.

ISSUE 02: Should we add attribute keyword values to this document?

ISSUE 03: Should we add attributes keyword name extensions to this document

ISSUE 04: Should we publish this document somehow? If so, how and where?

Agreed: Yes, on the IPP web page.

1 Operation-ids (ipp-mod)

Operation Name	Code	Description	Document	Date
reserved, not used	0x0000		[ipp-mod]	3/1/00
reserved, not used	0x0001		[ipp-mod]	3/1/00
Print-Job	0x0002		[ipp-mod]	3/1/00
Print-URI	0x0003		[ipp-mod]	3/1/00
Validate-Job	0x0004		[ipp-mod]	3/1/00
Create-Job	0x0005		[ipp-mod]	3/1/00
Send-Document	0x0006		[ipp-mod]	3/1/00
Send-URI	0x0007		[ipp-mod]	3/1/00
Cancel-Job	0x0008		[ipp-mod]	3/1/00
Get-Job-Attributes	0x0009		[ipp-mod]	3/1/00
Get-Jobs	0x000A		[ipp-mod]	3/1/00
Get-Printer-Attributes	0x000B		[ipp-mod]	3/1/00
Hold-Job	0x000C		[ipp-mod]	3/1/00
Release-Job	0x000D		[ipp-mod]	3/1/00
Restart-Job	0x000E		[ipp-mod]	3/1/00
reserved for a future operation	0x000F		[ipp-mod]	3/1/00
Pause-Printer	0x0010		[ipp-mod]	3/1/00
Resume-Printer	0x0011		[ipp-mod]	3/1/00
Purge-Jobs	0x0012	Purge All Jobs from Printer	[ipp-mod]	3/1/00
Set-Printer-Attributes	0x0013	Set Printer Attributes	[ipp-set-ops]	3/1/00
Set-Job-Attributes	0x0014	Set Job Attributes	[ipp-set-ops]	3/1/00
Get-Printer-Supported-Values	0x0015	Get Supported "xxx-supported" values	[ipp-set-ops]	3/1/00
Create-Printer-Subscription	0x0016		[ipp-ntfy]	3/6/00
Create-Job-Subscription	0x0017		[ipp-ntfy]	3/6/00
Get-Subscription-Attributes	0x0018		[ipp-ntfy]	3/6/00
Get-Subscriptions	0x0019		[ipp-ntfy]	3/6/00
Renew-Subscription	0x001A		[ipp-ntfy]	3/6/00
Cancel-Subscription	0x001B		[ipp-ntfy]	3/6/00
Get-Notifications	0x001C		[ipp-notify-poll]	5/17/00
Send-Notifications	0x001D		[ipp-indp-method]	7/4/00
Get-Resource-Attributes	0x001E		[ipp-get-resources]	7/6/00
Get-Resource-Data	0x001F		[ipp-get-resources]	7/6/00
Get-Resources	0x0020		[ipp-get-resources]	7/6/00

2 Status Codes (ipp-mod)

2.1 Successful status codes (ipp-mod)

Status code	value	Description	Document	Date
successful-ok	0x0000		[ipp-mod]	3/1/00
successful-ok-ignored-or-substituted-attributes	0x0001		[ipp-mod]	3/1/00
successful-ok-conflicting-attributes	0x0002		[ipp-mod]	3/1/00
successful-ok-ignored-subscriptions	0x0003		[ipp-ntfy]	3/6/00
successful-ok-~~partial~~ignored-notifications	0x0004		[ipp-indp] [ipp-indp-method]	4/2/00 7/5/00
successful-ok-too-many-events	0x0005		[ipp-ntfy]	6/26/00
successful-ok-but-cancel-subscription	0x0006		[ipp-indp-method]	7/5/00

2.2 Client error status codes (ipp-mod)

Status code	value	Description	Document	Date
client-error-bad-request	0x0400		[ipp-mod]	3/1/00
client-error-forbidden	0x0401		[ipp-mod]	3/1/00
client-error-not-authenticated	0x0402		[ipp-mod]	3/1/00
client-error-not-authorized	0x0403		[ipp-mod]	3/1/00
client-error-not-possible	0x0404		[ipp-mod]	3/1/00
client-error-timeout	0x0405		[ipp-mod]	3/1/00
client-error-not-found	0x0406		[ipp-mod]	3/1/00
client-error-gone	0x0407		[ipp-mod]	3/1/00
client-error-request-entity-too-large	0x0408		[ipp-mod]	3/1/00
client-error-request-value-too-long	0x0409		[ipp-mod]	3/1/00
client-error-document-format-not-supported	0x040A		[ipp-mod]	3/1/00
client-error-attributes-or-values-not-supported	0x040B		[ipp-mod]	3/1/00
client-error-uri-scheme-not-supported	0x040C		[ipp-mod]	3/1/00
client-error-charset-not-supported	0x040D		[ipp-mod]	3/1/00
client-error-conflicting-attributes	0x040E		[ipp-mod]	3/1/00
client-error-compression-not-supported	0x040F		[ipp-mod]	3/1/00
client-error-compression-error	0x0400		[ipp-mod]	3/1/00
client-error-document-format-error	0x0401		[ipp-mod]	3/1/00
client-error-document-access-error	0x0412		[ipp-mod]	3/1/00
client-error-attributes-not-settable	0x0413		[ipp-set-~~ops~~]	3/1/00
client-error-~~uri-notification-scheme-not-supported~~ignored-all-subscriptions	0x0414		[ipp-ntfy]	6/23~~3/1/00~~
client-error-too-many-subscriptions	0x0415		[ipp-ntfy]	3/1/00
client-error-ignored-all-notifications~~too-many-events~~	0x0416		[ipp-~~ntfy~~indp-method]	~~3/1/00~~7/5/00

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2.3 Server Error Status Codes (ipp-mod)

Status code	value	Description	Document	Date
server-error-internal-error	0x0500		[ipp-mod]	3/1/00
server-error-operation-not-supported	0x0501		[ipp-mod]	3/1/00
server-error-service-unavailable	0x0502		[ipp-mod]	3/1/00
server-error-version-not-supported	0x0503		[ipp-mod]	3/1/00
server-error-device-error	0x0504		[ipp-mod]	3/1/00
server-error-temporary-error	0x0505		[ipp-mod]	3/1/00
server-error-not-accepting-jobs	0x0506		[ipp-mod]	3/1/00
server-error-busy	0x0507		[ipp-mod]	3/1/00
server-error-job-canceled	0x0508		[ipp-mod]	3/1/00
server-error-multiple-document-jobs-not-supported	0x0509		[ipp-mod]	3/1/00

3 Attribute Group tags (ipp-pro)

Attribute group tags	value	Description	Document	Date
reserved for definition in a future IETF standards track document	0x00		[ipp-pro]	3/1/00
operation-attributes-tag	0x01		[ipp-pro]	3/1/00
job-attributes-tag	0x02		[ipp-pro]	3/1/00
end-of-attributes-tag	0x03		[ipp-pro]	3/1/00
printer-attributes-tag	0x04		[ipp-pro]	3/1/00
unsupported-attributes-tag	0x05		[ipp-pro]	3/1/00
subscription-attributes-tag	0x06		[ipp-ntfy]	3/6/00
event-notification-attributes-tag	0x07		[ipp-ntfy], [ipp-indp], [ipp-notify-poll], [ipp-indp-method	3/6/00 2/29/00 3/8/00 7/5/00
resource-attributes-tag	0x08		[ipp-get-resources]	7/6/00

4 Out-of-band tags (ipp-pro)

Out-of-band tags	value	Description	Document	Date
unsupported	0x10	A single attribute value for any attribute returned in the Unsupported Attributes group in a Job Creation response	[ipp-pro]	3/1/00
reserved for 'default' for definition in a future IETF standards track document	0x11		[ipp-pro]	3/1/00
unknown	0x12	A single attribute value for any attribute returned by Get-Xxx-Attributes	[ipp-pro]	3/1/00
no-value	0x13	A single attribute value for any Printer attribute returned by Get-Printer-Attributes	[ipp-pro]	3/1/00
~~none~~	~~0x14~~	withdrawn, 4/21/00	~~[ipp-coll]~~	~~2/22/00~~
not-settable	0x15	A single attribute value in a Set-Job-Attributes and Set-Printer-Attributes response	[ipp-set-ops]	3/1/00
delete-attribute	0x16	A single attribute value in a Set-Job-Attributes request	[ipp-set-ops]	3/1/00
admin-define	0x17	Was called 'any-value' in a 3/1/00 draft. One of a number of values of an "xxx-supported" attribute in a Get-Printer-Supported-Values response - changed to always have 0 length value— ISSUE Ok?	[ipp-set-ops]	3/2300
~~user-define~~	~~0x18~~	~~One of a number of values of an "xxx-supported" attribute in a Get-Printer-Attributes response - ISSUE or do with "user-defined-names-supported" Printer Attribute?~~ Never published in a draft, so can re-use this code.	~~[ipp-prod-print]~~	~~4/11/00~~
~~user-define-supported~~	~~0x19~~	~~One of a number of values of an "xxx-supported" attribute in a Get-Printer-Supported-Values response - ISSUE or do with "user-defined-names-supported" Printer Attribute?~~ Never published in a draft, so can re-use this code.	~~[ipp-prod-print]~~	~~4/11/00~~

5 Attribute Syntaxes (ipp-pro)

5.1 Integer attribute syntax types (ipp-pro)

Attribute syntax tags	value	Description	Document	Date
reserved for definition in a future IETF standards track document	0x20			
integer	0x21		[ipp-pro]	3/1/00
boolean	0x22		[ipp-pro]	3/1/00
enum	0x23		[ipp-pro]	3/1/00

5.2 Octet String attribute syntax types (ipp-pro)

Attribute syntax tags	value	Description	Document	Date
octetString with an unspecified format	0x30		[ipp-pro]	3/1/00
dateTime	0x31		[ipp-pro]	3/1/00
resolution	0x32		[ipp-pro]	3/1/00
rangeOfInteger	0x33		[ipp-pro]	3/1/00
begCollection	0x34		[ipp-coll]	3/1/00
textWithLanguage	0x35		[ipp-pro]	3/1/00
nameWithLanguage	0x36		[ipp-pro]	3/1/00
endCollection	0x37		[ipp-pro]	3/1/00

5.3 Character String attribute syntax types (ipp-pro)

Attribute syntax tags	value	Description	Document	Date
reserved for definition in a future IETF standards track document	0x40			
textWithoutLanguage	0x41			
nameWithoutLanguage	0x42			
reserved for definition in a future IETF standards track document	0x43			
keyword	0x44			
uri	0x45			
uriScheme	0x46			
charset	0x47			
naturalLanguage	0x48			
mimeMediaType	0x49			
memberAttrName	0x4A	Collection member attribute name	[ipp-coll]	3/29/00

6 Enum allocations

This section lists enum additions. Just the enums, not the specifications. See the reference documents for the spec.

6.1 "finishings"

Enum	value	Document	Date
'3'	'none'	[ipp-mod]	3/1/00
'4'	'staple'	[ipp-mod]	3/1/00
'5'	'punch'	[ipp-mod]	3/1/00
'6'	'cover'	[ipp-mod]	3/1/00
'7'	'bind	[ipp-mod]	3/1/00
'8'	'saddle-stitch'	[ipp-mod]	3/1/00
'9'	'edge-stitch'	[ipp-mod]	3/1/00
'10'	'fold'	[ipp-fold]	10/20/99
'11'	'trim'	[ipp-fold]	10/20/99
'12'	'bale'	[ipp-fold]	10/20/99
'13'-'19'	reserved for future generic finishing enum values.	[ipp-mod]	3/1/00

Enum	value	Document	Date
'20'	'staple-top-left'	[ipp-mod]	3/1/00
'21'	'staple-bottom-left'	[ipp-mod]	3/1/00
'22'	'staple-top-right'	[ipp-mod]	3/1/00
'23'	'staple-bottom-right'	[ipp-mod]	3/1/00

Enum	value	Document	Date
'24'	'edge-stitch-left'	[ipp-mod]	3/1/00
'25'	'edge-stitch-top'	[ipp-mod]	3/1/00
'26'	'edge-stitch-right'	[ipp-mod]	3/1/00
'27'	'edge-stitch-bottom'	[ipp-mod]	3/1/00
'28'	'staple-dual-left'	[ipp-mod]	3/1/00
'29'	'staple-dual-top'	[ipp-mod]	3/1/00
'30'	'staple-dual-right'	[ipp-mod]	3/1/00
'31'	'staple-dual-bottom'	[ipp-mod]	3/1/00

7   References

Only references that allocate items in the above tables are listed here:

[ipp-admin-ops]
    Kugler, C, Hastings, T., Lewis, H., "Internet Printing Protocol (IPP): Job and Printer Administrative Operations", <draft-ietf-ipp-ops-set2-01.txt>, May 9, 2000.

[ipp-coll]
    deBry, R., , Hastings, T., Herriot, R., "Internet Printing Protocol/1.0 & 1.1: collection attribute syntax", <draft-ietf-ipp-collection-042.txt>, work in progress, March 9May 4, 2000.

[ipp-device-ops]
    Kugler, C, Hastings, T., Lewis, H., "Internet Printing Protocol (IPP): Device Administrative Operations", <draft-ietf-ipp-device-ops-00.txt>, May 9, 2000.

[ipp-except]
    Herriot, R., Ocke, K., "Internet Printing Protocol (IPP): Exception Attributes for Documents and Pages", <pwg-ipp-exceptions-model-000508.doc, .pdf>, work in progress, May 8, 2000.

[ipp-fold]
    Hastings, T., Fullman, D., "Internet Printing Protocol/1.1: finishings, fold, trim, and bale attribute values extension", <draft-ietf-ipp-finishings-fold-trim-bale-00.txt>, October 20, 1999.

[ipp-get-resources]
    Herriot, R., Hastings, T., Manros, C., Lewis, H., "Internet Printing Protocol (IPP): The 'ipp-get' Notification Polling Method", <draft-ietf-ipp-notify-poll-02.txt>, July 6, 2000.

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    Hastings, T., Manros, C., "Internet Printing Protocol/1.1: draft-ietf-ipp-implementers-guide-v11-01.txt, work in progress, May 9, 2000.

[ipp-indp]
Parra, H., T. Hastings, "Internet Printing Protocol 1.1/1.0: IPP Notification Delivery Protocol", <draft-ietf-ipp-indp-00.txt>, February 29, 2000.

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[ipp-mod]
R. deBry, T. Hastings, R. Herriot, S. Isaacson, P. Powell, "Internet Printing Protocol/1.0: Model and Semantics", <draft-ietf-ipp-model-v11-07~~6~~.txt>, ~~March 1~~May 22, 2000.

[ipp-notify-poll]
Manros, C., Hastings, T., Herriot, R., Lewis, H., "Internet Printing Protocol (IPP): The 'ipp' Notification Delivery Polling Method", <draft-ietf-ipp-notify-poll-01~~0~~.txt>, work in progress, ~~February 2~~May 11, 2000.

[ipp-notify-req]
deBry, R., Lewis, H., Hastings, T., "Internet Printing Protocol (IPP): Requirements for IPP Notifications", <draft-ietf-ipp-not-04.txt>, work in progress, May 9, 2000.

[ipp-ntfy]
Isaacson, S., Martin, J., deBry, R., Hastings, T., Shepherd, M., Bergman, R., "Internet Printing Protocol/1.1: IPP Event Notification Specification", <draft-ietf-ipp-not-spec-03~~2~~.txt>, ~~March 8~~June 30, 2000.

[ipp-pro]
Herriot, R., Butler, S., Moore, P., Tuner, R., "Internet Printing Protocol/1.1: Encoding and Transport", draft-ietf-ipp-protocol-v11-06~~5~~.txt, ~~March 1~~May 30, 2000.

[ipp-job-prog]
Hastings, T., Bergman, R., Lewis, H., "Proposed Job Progress Attributes for IPP", <draft-ietf-ipp-job-prog.txt> work in progress, ~~February 2~~May 9, 2000.

[ipp-set-ops]
Kugler, C., , Hastings, T., Herriot, R., Lewis, H, "Internet Printing Protocol (IPP): Job and Printer Set Operations", <draft-ietf-ipp-job-printer-set-ops-02~~1~~.txt>, work in progress, March 23~~8~~, 2000.

[pwg-prod-print]
Ocke, K., Hastings, T., "Internet Printing Protocol (IPP): Production Printing Attributes - Set1", <pwg-ipp-prod-print-set1-00~~0509~~0411.rtf, .pdf>, ~~April 11~~May 9, 2000.