

IPP Protocol

Changes since August IETF

Attributes Groups

Parameter/Attribute distinction removed

Attribute Groups created:

- operation attributes
- job attributes
- printer attributes
- unsupported attributes

Empty Attribute Groups

Sender (of request or response) should send

- attribute group tag with no following attributes
 - except for unsupported-attributes-tag

Receiver of (request or response) must accept as equivalent empty attribute groups:

- attribute group tag with no following attributes
- expected but missing attribute tag

Extensibility for Unknown Tags

Unknown tags fall into two categories:

- delimiter tag, 0-0xf: beginning of attribute group
- value tag, 0x10-0xff: single value

Allows the receiver of a request or response to skip all attributes in an unknown group.

Operation Target

Printer-uri and job-uri target of operation

- must be on HTTP request line
- may also be in operation attributes

Job operations must be supported with both

- job-uri target
- printer-uri target with job-id attribute

Create job operation returns job-uri and job-

Localized Text and Names

The natural language associated with Text and Name values may differ from the natural-language of the operation.

- tried and rejected several different solutions
- settled on two new types:
 - localized-text and localized-name
- consists of an octet string with 4 fields:
 - length natural-language length text/name

Request Id

Request Id added to all requests and responses

- server returns received request-id in response
- client may match responses with requests

Security

A secure IPP implementation must use TLS
IPP implementations can also use security mechanisms defined by HTTP/1.1 [rfc 2068] and extensions [rfc 2069].

Minor changes

Renamed ‘data-tag’ to ‘end-of-attributes-tag’

Added new out-of-band values:

- no-value
- unknown

Definition of status codes and operations moved to model document

Mapping between LPD and IPP

Changes since August IETF

Change to Informational

“This document is an informational document that is not on the standards track. It is intended to help implementors of gateways between IPP and LPD. It also provides an example, which gives additional insight into IPP.”

Attribute Changes

job-id brought back

- now both job-id and job-uri are available
- simplifies implementation with job-id which can be the same as LPD job number

job-originating-host no longer available.

- IPP-to-LPD must use some other means to supply the 'H' (host) parameter.

More Attribute Changes

Job-k-octets clarified as not containing copies

- file size in lpq does contain copies

IPP notification gone

- cannot support LPD email notification

document formats conversion is different

- are mime media types now
- were enums

Authentication

new attribute: job-originating-user-name

- was job-originating-user

explicitly holds a human readable name

value comes from

- authentication and
- operation attribute: requesting-user-name