

Simple Web Printing

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Introduction

- MS and HP joint effort
- Address the simple case
 - Internet fax
 - Printshops'R'Us
 - Print from hotel to corporate LAN
- Platform neutral
- Implementation neutral

Previous Work

- Already done work on this problem
- Decided to go 'open'
- Changed protocol
 - Feedback and ideas from IETF
 - To be extensible
 - To be platform neutral
 - alpha testing

What it mandates

- Print submission protocol
 - Command sequence
 - Data format
 - encoding
 - return values
- HTTP 1.1
- Security



What it suggests



- Client Configuration
- Return URL
- Access control

Excluded

- Job control and monitoring protocol
- Printer discovery and client config protocol
- Print by reference



The base protocol

- A single HTTP POST
 - Attributes and data
- Server responds
 - 200 OK + optional URI
 - 4xx error (see document for details)

POST Format

POST Headers

Entity Headers

<crlf>

Entity Body

Content-Length
- Optional
- Chunked if absent

Content-type
- Application/swp
- charset

Entity format

Header Length

32-bit

[Attributes...]

Type - 32 Bit

Length - 16 Bit

Value - Specific to type

[Print Data]

PCL, PS, etc.

NOTE: Only Header Length is required

Attributes

- Extensible
- Simple and robust
- Based on existing work
 - ISO 10175
 - IPP Model (adornments?)
 - RFC 1759

Attributes

Type

32 bit value
formed from
ISO OIDs

Length

16 bit length of
value

Value

String (charset)
16-bit Enumeration
RFC1123 Date

Boolean
32-bit Integer
...

Example

15 00 00 00

01 00 01 00 03 00 j o b

00 51 01 00 02 00 03 00

Header length = 21

document-name = 'job'

Document-format = PCL

Security

- Use HTTP defined authentication mechanisms.
- SSL3 if required
- Server behaviour suggested rather than mandated
- Denial of service attacks for anonymous printers is a problem

Management, discovery, ..

- HTML via the browser
 - Flexible
 - No client changes (keeps client thin too)
- Not mandated just suggested
 - A printer could just support the data post

MS / HP Implementation

- Thinking about
 - Print provider for the client
 - Dynamic HTML view of queues and printers from IIS
 - IIS extension for job submission
 - Client configuration
- Previously presented by babakj

Issues

- Enumerations vs. keywords
 - RFC 1759 rich enough for print data?
- Byte ordering for multi-byte characters
- application/SWP
- Mandate return URI
- What to do with unsupported attributes
- Adornments
- Denial of service