IPP Job Storage 2.0: Fixing JPS2

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JPS2 v2.0 : Topics to Discuss

- Design questions pertaining to the replacement for "job-save-disposition"
Job Storage – Details To Discuss

• What do we want to do about Job States and the "Job Storage" feature?
  • Retain indefinitely (implicit "job-retain-until" = 'forever'), special handling / visibility / presentation based on "which-jobs" = 'stored-jobs'
  • New "job-state"?

• How to handle reporting the set of Stored Jobs
  • IPP Get-Jobs operation with "which-jobs" = 'stored-jobs'
  • Handling limiting access - authentication prompt possible?
  • All stored jobs vs. different "which-jobs" keywords for each visibility scope? Or should "job-storage" be an operation attribute for Get-Jobs?
  • Group etc. discovered by Client by examining each Job's "job-storage" Job Status attribute
Job States – Regular Job

Job A

'pending'

'processing'

'completed'

Delete documents

Job History

Job History

Job History

Delete Job from History

Job Removal

Job History

Job History

Delete documents

Job A (with docs)

Job A (without docs)
Job States – Regular Job With Reprint

- **Job A**
  - 'pending'
  - 'processing'
  - 'completed'

- **Job History**
  - Job A (with docs)
  - Job A (without docs)

- **Job Removal**

  - Delete documents
  - Delete Job from History

Reprocess-Job or non-IPP reprint

- **Job A'**
  - 'pending'
  - 'processing'
  - 'completed'

- **Job History**

  - Job A (without docs)

  - Delete documents
  - Delete Job from History

- **Job Removal**
Job States – Proof Print Job

Job A
- 'pending'
- 'processing'
- 'completed'
  Delete documents
  Job History
  Delete Job from History
  Job Removal

Reprocess-Job or non-IPP reprint

Job A'
- 'pending'
- 'processing'
- 'completed'
  Delete documents
  Job History
  Delete Job from History
  Job Removal

"proof-print" removed from new Job to prevent further reprints
Job States – Stored Job

- Job A
  - 'pending'
  - 'processing'
  - 'completed'
  - Delete documents
  - Job History
  - Delete Job from History

- Job A'
  - 'pending'
  - 'processing'
  - 'completed'
  - Delete documents
  - Job History
  - Delete Job from History

Job Storage

Reprocess-Job or non-IPP reprint
Stored Job Requirements

- After reaching 'completed' state, retained indefinitely

- Access Control
  - Who can see it
  - Who can reprint it
  - Encryption

- Job Ticket

- Job Accounting
"job-password"

• Add related attributes from 2016 registration?
  • "job-password-repertoire" & friends
  • "job-password-length-supported"
"job-print-password"

- Could have added a password to "job-storage" – a generic more flexible replacement for "job-password" allows it to be used in other context
  - Retained Jobs of various types
    - Job Proof Print ("proof-print")
    - Reprints from Job History
  - IPP INFRA use cases
  - Others…?

- Deprecate "job-password"? Or leave it alone?
Obsolescence vs. Deprecation

- Should we be deprecating "job-save-disposition" or obsoleting it?
Earlier Slides
JPS2 – What's wrong with it? (1/2)

- Job Save → Feature solution did not fully satisfy the requirements from the use cases

- Proof Print → Retention time duration for Proof Print Jobs is ambiguous

- "job-password" feature is incompatible with both the Job Save and Proof Print features
JPS2 – What's wrong with it? (2/2)

• Issues identified at August 2018 F2F:
  • "job-save-disposition" does not create a Saved Job as defined in JPS2, it saves the processed output of that Job to the specified destination (which may or may not be sufficient to recreate the original Job - all implementation-specific, determined by output mimeMediaType)

  • No way to specify a serialized IPP object representation (application/ipp is a message format, not a serialization format)
    • What does this mean?

  • proof-print asks for a Job to be retained but does not guarantee it is retained indefinitely
JPS2v2: Goals

1. Develop a system of attributes that can be used together to support the Job Storage, Proof Print, and Reprint Job use cases from 5100.11-2010 along with those in this deck and other relevant additions. The system MUST resolve all the ambiguity and incompatibility issues described earlier.

2. Clean up and deprecate whatever attributes are displaced by this new solution

3. Resolve any errata / editorial issues
Target Use Cases

- Hold Job Until User Release
  - Using authentication
  - Using Job authentication
    - "job-password" or new "job-print-password"
  - With basically no authentication (click OK to print)
    - "job-hold-until" = 'indefinite' → Is this the commonly held semantic for this?

- Job Save With Password

- Proof Print
  - Job Retention Duration (new "job-retain-until" and "job-retain-until-time" attributes)

- Use Cases in 5100.11 (Proof Print, Job Save, Reprint Job)
  - Mostly adequate but not clearly satisfied by the IPP attribute semantics
System Requirements

- Hold a Pending Job (not really a "stored job")
  - Submitted Job stays in 'pending-held' or 'pending' until "released"
    - Release via IPP
    - Release via non-IPP (control panel, management console)
  - Release **May** be guarded by a password (alphanumeric or numeric-only) but not required

- Store a Job for later re-printing
  - Store Only or Print-and-Store (latter different than Proof Print)
  - Associate with user identity

- Proof Print
  - Print one copy of a multiple copy job for review; release remaining copies, to be printed potentially from other input source
5100.11 – Deprecations

- "job-save"
  - Doesn't satisfy all the use case requirements
  - Existing definition has polluted semantics and expectations

- "proof-print"
  - Intersects with "job-save" in certain ways that are vaguely defined
  - Retention duration is not clearly defined (implementation-specific)

- "job-password" / "job-password-encryption"
  - Does this need to be deprecated? Or does it do what we want it to do for the Hold Job case?
5100.11 – Additions

- "job-password-repertoire"
  - Defined in IPP Job Password Repertoire
  - Should be deprecated if "job-password" is deprecated
- "job-retain-until" (dateTime)
  - Discussed at the August F2F
- Replacement for "job-save" and "proof-print"
Next Steps

- Email discussion to discuss proposals for new attributes and semantics
- New draft to be produced for review in January