Semantic Model Face-to-Face Minutes
December 7, 2011

Meeting was called to order at approximately 1:00pm local on December 7, 2011.

Attendees

Danny Brennen (GTS Services Delivery - call in)
Nancy Chen (Oki Data)
Ira McDonald (High North/Samsung - call in)
Joe Murdock (Sharp)
Glen Petrie (Epson - call in)
Michael Sweet (Apple)
Jerry Thrasher (Lexmark)
Paul Tykodi (TCS - call in)
Bill Wagner (TIC)
Jay Wang (Toshiba)
Larry Upthegrove (End User - call in)
Rick Yardumian (Canon)
Pete Zehler (Xerox)

Agenda Items

1. IP Policy and Minute Taker
    a. Policy accepted with Mike taking the minutes
2. Status
    a. System Object and System Control Service Semantics in formal vote
        - VOTES NEEDED
    b. PWG Job Ticket and Associated Capabilities in last call
        - ACKNOWLEDGMENTS NEEDED
    c. Schema
        - Current version 1.168 has been published
        - Version 1.169 is in progress to sync up with JPS3 and Raster
3. Transform Service
    a. Transform Naming/Federation
    b. Is there a transform database?
    c. Transform elements:
        - Name (URN URI)
        - Type (Bucket - convert, image, etc.)
        - Identifier (UUID)
        - Short Description (localizable)
        - Long Description (localizable)
        - Manufacturer/vendor
        - More Info (text/URI)
        - Input Format(s) + details
        - Output Format(s) + details
        - Mandatory job/document elements
        - Optional/supported job/document elements
        - Throughput
        - Limits (kilobytes and pages)
        - Multiple document job support
    d. Transform job creation:
        - Transform Identifier (UUID)
        - Input Format(s) + Document(s)
        - Output Format + details + Destination(s)
        - All mandatory job/document elements
        - Any optional job/document elements
    e. Capabilities elements:
        - Transform types supported
        - Input formats supported (per type?) + details

- Output formats supported (per type?) + details
- Defaults like FaxIn - metrics based on transform URN, input format, output format

f. Status elements:
- QueuedJobCount
- PagesPerMinute (rollup)

g. Get Transforms operation
- Input format(s)
- Output format
- Type
- Returns list of matching transforms

h. Concrete examples:
- Print to printer advertising word support based on cloud transform service
  - Printer determines that the cloud transform service is available and add the format to the list of supported document formats
  - Client submits word document in print job creation request
  - Printer loses connection to cloud transform service
  - Job is suspended (processing-stopped) with the appropriate job-state-reasons and possibly printer-state-reasons keywords
  - Client can monitor state and report to user (Continue/Cancel)
  - When the service becomes available, job goes back to processing state
  - If the service is permanently unavailable the Printer aborts the job and removes the format from the list of supported document formats

i. Transform types:
- File conversion
- Imposition
- Collation
- Image
- Render? (convert with knobs for rasterization)
- DataExtract (OCR/BarCode/QR Code)
- Action: Mike to post request to pwg-announce for list of transforms sent to MFD list
- Do we have standard transforms?
  - Convert
  - Imposition
  - Collation
  - PWG Raster render?
  - Minimum required elements, additional optional elements per implementation (with defaults)
  - Document format details might also define things like which color spaces are supported, etc.

j. Transform costs? (e.g. latency, bandwidth, processing load, processing time)
- Use a different word than cost - maybe load?
- Throughput
  - Like pages-per-minute (images) but track as a metric (average throughput, computation is implementation-specific)
  - jobs-per-minute/hour - might help qualify queued job count, but not generally useful
- Time to processing - problematic in the print-by-reference case, requires printer to recalculate total cost.
- Job limits (size, pages, multiple document support)
- Quality is another factor in selection of a transform by a client
  - Clients will pick desired services/providers

k. Printers can leverage off-box transforms
- How would they be managed?
  - Implementation-specific
  - Could be manual configuration, hard-coded, or dynamically discovered (e.g. Bonjour/ DNS-SD)
  - LDAP, WS-Discovery, etc. provide separate registrations for each service
    - Add device UUID to schema
    - Number of services/service count to schema
    - Action: Mike to add device-uuid and device-service-count to JPS3
    - Action: Ira to add device-uuid and device-service-count to LDAP schema
  - Bonjour typically registers once per device

        - Subtypes can be used to advertise individual services
        - Multiple service instance names used for different logical printers
        - Action: Mike to add explanation for using printer-uuid over device-uuid in IPP Everywhere
        - Future IPP Multi-Function spec will need to define new service types (not just _ipp or subtypes)
    - How would they be listed?
        - DocumentFormatsSupported for format support
        - NumberUpSupported for imposition support
        - JobCollation/SheetCollate/MultipleDocumentHandling for collation support
        - Other vendor elements/capabilities

Next Steps / Open Actions

- Next conference call February 23, 2011 at 3pm (EDT)
- Print Job Ticket update and WG last call
- Finish System Object and System Control Service PWG Formal Vote
- Work on preliminary draft of Transform Service
- Schema updates
- Prototyping of transform services
- Action: Mike to post request to pwg-announce for list of transforms sent to MFD list
- Action: Mike to add device-uuid and device-service-count to JPS3
- Action: Mike to add explanation for using printer-uuid over device-uuid in IPP Everywhere
- Action: Ira to add device-uuid and device-service-count to LDAP schema
- Action: Mike to make some diagrams for the lifecycle of a spooled and streamed job (ONGOING)
- Action: Ira to check LDAP schema for printer-charge-info/printer-charge-info-uri