

Cloud Imaging Model WG Minutes

December 5, 2012

Meeting was called to order at approximately 10:00am PT December 5, 2012.

Attendees

Russell Brudnicki (Kyocera)
Nancy Chen (Okidata)
Randy Turner (Amalfi)
Constantinos Kardamilas (Samsung APS)
Matthew Hansen (Toshiba)
Justin Hutchings (Microsoft)
Adam Just (Samsung APS)
Kelly Lucas (Google)
Daniel Manchala (Xerox)
Tim McCann (Konica Minolta)
Ira McDonald (High North - call in)
Smith Kennedy (HP - call in)
Joe Murdock (Sharp)
Ron Nevo (Samsung)
Glen Petrie (Epson - call in)
Brian Smithson (Ricoh)
Alan Sukert (Xerox - call in)
Michael Sweet (Apple - call in)
Paul Tykodi (TCS - call in)
Larry Upthegrove (End-User - call in)
Bill Wagner (TIC)
Rick Yardumian (Canon)
Peter Zehler (Xerox - call in)

Agenda Items

1. IP Policy and Minute Taker
 - a. Policy accepted with Mike taking the minutes
2. Cloud Printing Requirements and Model
 - a. <ftp://ftp.pwg.org/pub/pwg/cloud/white/wd-cloudmodel10-20121205a.pdf>
 - b. Section 1: Talk about how the same model and extensions applies beyond public cloud - private cloud/infrastructure services. This applies more broadly than just Cloud
 - Action: Mike to provide updated text for Cloud Model introduction
 - c. How broadly does this model apply to the various SM services?
 - Q: Generally to a subset for printing
 - Could be applied to all services and functions (including management/administration)
 - For this spec focus on Print Service administrative operations (not device management)
 - d. What about print-by-reference?
 - How does a Client know if the Cloud Print Service can access the URI?
 - The model does include status codes and reasons to tell the client the document is not accessible, either at submission or processing time
 - OAUTH authorization solves authorization issue, but not network accessibility
 - e. Section 2.2:
 - Sort list of terms alphabetically
 - Cloud Printing: Make more general ("submit any Print Service request")
 - Cloud Print Manager: "the software component that implements the interface between the Device and a cloud-based environment for registration of the Printer; and that implements the interface between the Printer and one or more cloud-based components, called Cloud Print Services, for all Semantic Model Print Service [PWG5108.01] elements and operations and other extensions for Cloud Printing."

- Cloud Print Service: "a cloud-based software component that implements the Service supporting Client submission of Semantic Model Print Service requests. A Cloud Print Service communicates with one and only one Cloud Print Manager and is created when the Device is registered with the cloud-based environment. The Cloud Print Service acts as a cloud-based intermediary between the Client and Cloud Print Manager.
 - Cloud Print Client (Client): "the software component that implements the interface between the User and the cloud-based Cloud Print components, including association with the cloud-based environment, for all Semantic Model Print Service elements and operations."
 - Registration: "the process by which a Device becomes known to the cloud-based environment, resulting in the creation of a corresponding Cloud Print Service."
 - Association: "the process by which a User is paired with a registered Device."
 - Client-side and Device-side (instead of Printer-side)
3. Cloud Print Operations
- a. <ftp://ftp.pwg.org/pub/pwg/cloud/slides/Cloud-WG-Meeting-Dec-2012.pdf>
 - b. GetAvailableJobs
 - Don't like support for multiple print services
 - Single target for operation, GetAvailableJobs could still return jobs for multiple output devices queued on that single cloud print service
 - Up to the Cloud Print Manager to map jobs to output devices and whether those devices are exposed to the Cloud Print Service
 - Capabilities reported by Cloud Print Manager may be intersection or union of capabilities - classic "kinkos", "print and release" scenarios
 - Make sure Requirements and Model diagram matches this
 - Q: Why have GetAvailableJobs?
 - A: Need it because the Cloud Print Service needs to pre-process job (convert document data, retrieve document URI, etc.)
 - JobState can be pending, processing, processing-stopped with appropriate JobStateReasons
 - New notification events for jobs that can now be fetched
 - Rename to GetFetchableJobs to make it clear that the job and documents can be fetched
 - Separate operation allows for policy-based decisions
 - c. FetchJob, AcknowledgeJob
 - ReplyToJob -> AcknowledgeJob
 - Need to include the interactions/sequences of operations in the model document
 - Q: What about reject job?
 - A: AcknowledgeJob with status
 - d. FetchDocument, AcknowledgeDocument
 - Sequence: GetFetchableJobs, FetchJob, AcknowledgeJob, [FetchDocument, AcknowledgeDocument]*
 - Q: How does a Cloud Print Service know which combination of resolution and type (color space and bit depth) to use when generating the document data?
 - A: It doesn't and needs to guess
 - Q: How to handle failures?
 - A: Cloud Print Manager returns document-unprintable-error, document-format-error, Cloud Print Service reprocesses job into a different format, or errors out job
 - Q: If a FetchJob removes a job from the fetchable list, how to handle interrupted fetches?
 - A: Need to define this.
 - No persistent job data
 - Need some way to reset fetched but not acknowledged jobs
 - Add UpdateFetchableJobs operation
 - Cloud Print Manager sends a list of fetched jobs
 - Cloud Print Service returns any fetched jobs not in the list provided by the CPM to the fetchable job list on the CPS
 - Synchronization operation after power/comm failure, on initial startup
 - Good on AcknowledgeDocument
 - e. UpdatePrinterState, UpdateJobState, UpdateDocumentState

- Q: UpdatePrintServiceState?
 - But we are updating the state of the Cloud Print Manager, not the Cloud Print Service
 - But the CPS already reports a superset of what the CPM reports
 - And IPP fanout can report its own state independent of the output devices
 - A: Yes, also UpdatePrintJobState and UpdatePrintDocumentState
- Support for sparse updates
- f. What about the Cloud Print Service (CPS) contacting the Cloud Print Manager (CPM)?
 - Can use IPP Notifications with long-running get-notifications
 - Need new job event ('job-fetchable') to know when to do a GetFetchableJobs
 - Don't need XMPP
 - Pete added notifications to model and WSDL, but hasn't bound it to any particular service (more like an extension to existing services)
 - Notifications would be a separate port in WSDL, bound to a service
 - No roll-up job summary for system control service, so SM notifications need to be bound to individual services
- g. What about the "lost communication" situation between Cloud Print Service and Manager?
 - Client could discover this through printer-state-reasons or job-state-reasons returned by the Cloud Print Service
- h. Q: Are subscriptions/notifications part of Cloud port type or separate?
 - A: separate port type, bound to Cloud Print Service
- i. Q: Are IPP notifications appropriate for different kinds of notifications?
 - A: Yes, but only use them for stuff specific to the service(s) we are talking to.
- 4. Cloud Print Requirements and Model
 - a. <ftp://ftp.pwg.org/pub/pwg/cloud/white/wd-cloudmodel10-20121205a.pdf>
 - b. Section 4.1: Drop "a Cloud Foo is" sentences, just expand on the general introduction to talk about the interactions between the blocks in Figure 1.
 - c. Figure 1:
 - Update client lines to say "Print Service Requests"
 - Update CPM lines to say "Print Service and Cloud Requests"
 - d. Figure 2:
 - Add operation names to request arrows, show all operations being used, don't show parameters sent, no return lines...
 - Would be nice to show that Client/CPS and CPS/CPM timelines are independent
 - Maybe do two separate Cloud Print Service lines to show the timelines are independent but to the same CPS?
 - Need two end-of-job (AcknowledgeJob from CPM to CPS, GetJobElements from Client to CPS)

Next Steps / Open Actions

- Next Cloud conference call is January 7, 2013 at 3pm ET
- All members to look at section 3 of cloud print requirements and model
- Action: Mike to provide updated text for Cloud Model introduction
- Action: Bill to post updated charter (DONE)
- Action: Larry to post update of Cloud Print Requirements and Model (DONE)
- Action: Ira to update milestones in IPP WG charter (PENDING)
- Action: Joe to update definition of visible/visibility to cover AAA (PENDING - definition proposed but subject to rework)
- Action: Pete and others to work on MSPS information from Justin for mapping document.
- Action: Mike to update PPD Mapping (ONGOING - pending table updates)