Cloud Imaging Working Group

April 5, 2011

Cupertino, CA

Cloud Imaging WG Meeting Agenda

When	What
9:00 - 9:10	Introductions, Minute Taker, Agenda Review
9:10 - 9:20	Cloud Imaging WG Overview, Charter Update
9:20 - 9:40	Functional Model
9:40 - 10:00	Design Requirements
10:00 - 10:20	Out of Scope
10:20 - 10:40	Discuss Generic PDL driver wrt/Cloud Imaging
10:40 - 10:45	Next Steps, Wrap Up
10:45 - 11:00	Break (so Plenary can start on time)

Overview

- Cloud-based applications and solutions are increasingly common.

- Cloud-based imaging (printing/scanning/etc.) is emerging in several different forms.

- A series of BOF meetings focused on modeling and understanding the use cases, requirements, and existing implementations were held.

- At the last PWG F2F meeting in Hawaii we formed the Cloud Imaging Working Group.

- The Cloud Imaging WG focus is around providing a set of specifications to support Cloud-based printing, scanning, and facsimile (collectively called "Cloud Imaging").

Officers

- Co-Chairs:
  - Andrew Mitchell (Hewlett-Packard)
  - Ron Nevo (Samsung)
- Secretary:
  - Michael Sweet (Apple)
- Document Editors:
  - Ira McDonald (High North): documents tbd
  - Joe Murdock (Sharp): documents tbd
  - Peter Zehler (Xerox): documents tbd
  - Andrew Mitchell (Hewlett-Packard): documents tbd
  - Ron Nevo (Samsung): documents tbd
  - Michael Sweet (Apple): documents tbd

Status

- Cloud Working Group Charter is out for formal vote. Please send in your vote if you haven't already done so.

- Conference calls since last BOF have focused around getting the Charter complete and out for vote.

- This is our first Face to Face as an official Working Group. Thank you for participating!

Functional Model

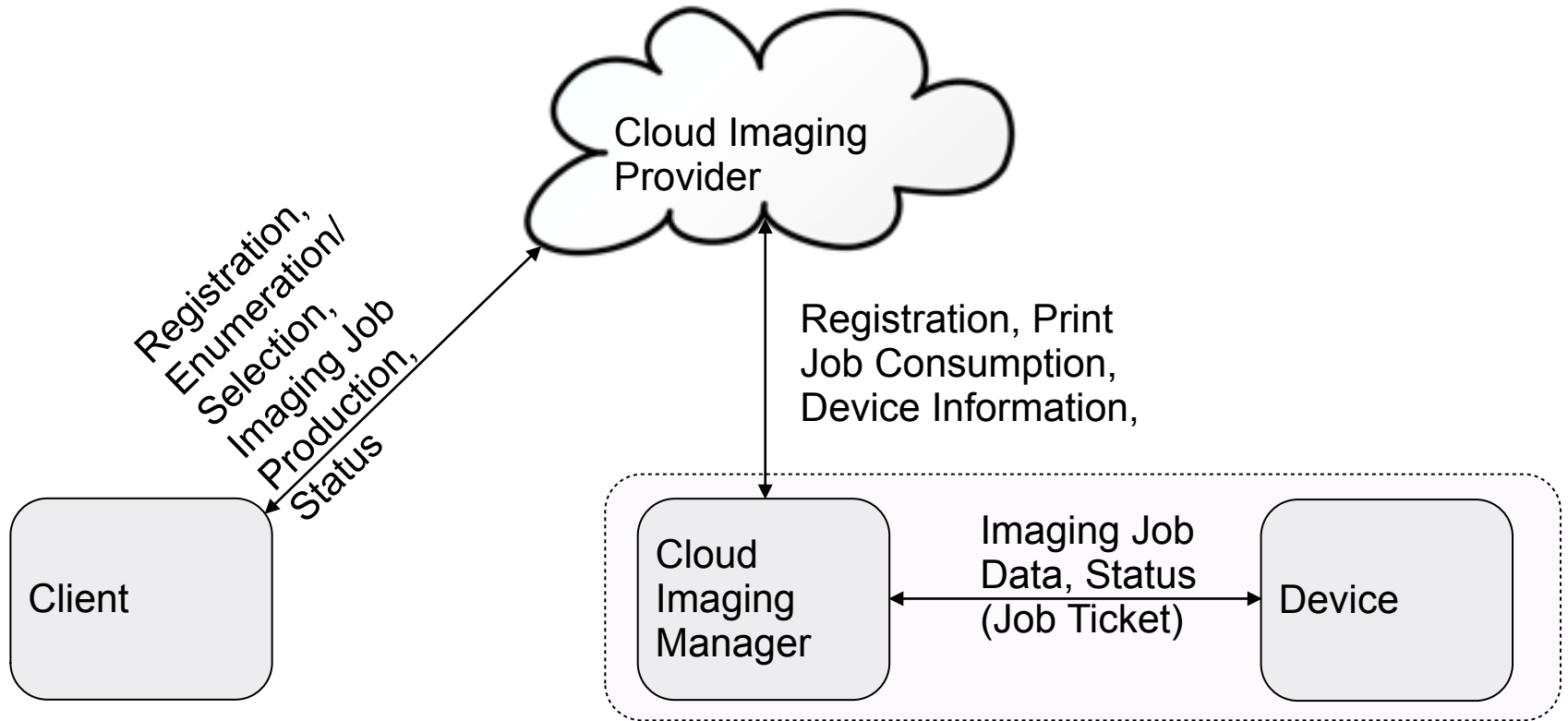- Cloud: an on-demand shared computing resource available over a network, typically the public Internet or a company's private intranet

- Cloud Imaging: any solution that connects a Client to a Imaging Device through a shared Cloud Imaging Provider

- Cloud Imaging Provider: the software component that manages jobs between Clients and Cloud Imaging Managers

- Cloud Imaging Manager: the software component that implements the interface between the Cloud Imaging Provider and Device

Functional Model

- Client: standard IPP definition

- Printer: standard IPP definition

- Imaging Device: standard MFD Model definition

- Registration: process by which a Client or Cloud Imaging Manager associates itself with the Cloud Imaging Provider

- Enumeration/Selection: process by which a Client finds candidate Imaging Managers and selects one for a subsequent imaging job

Functional Model

Cloud Imaging Provider

Registration, Enumeration/ Selection, Imaging Job Production, Status

Registration, Print Job Consumption, Device Information,

Client

Cloud Imaging Manager

Imaging Job Data, Status (Job Ticket)

Device

Design Requirements

- Registration
  - Allows for privacy/security/access control
- Enumeration/Selection
  - Enumeration and/or selection of available/registered devices
- Job Tickets
  - Standard abstract formats or representations with PWG semantics
- Document data/formats
  - Original content formats plus standard generic containers
- Fidelity/late transforms
  - Late transforms to minimize errors (particularly for cloud-to-cloud)
  - Choose the best transform format to preserve fidelity

Design Requirements

- Event notification
  - Cloud Imaging Provider to Client
  - Cloud Imaging Provider to Cloud Imaging Manager
  - Cloud Imaging Manager to Cloud Imaging Provider
  - Cloud Imaging Provider to Cloud Imaging Provider

- Encryption for privacy/security
  - X.509 authentication/authorization
  - Encryption of all data between Client, Cloud Imaging Provider, Cloud Imaging Manager

- Logging/accounting
  - Security auditing, maintenance, billing

Design Requirements

- Firewall/router/network traversal
  - All connections between Client, Cloud Imaging Provider, and Cloud Imaging Manager need to be considered
- Support Store-and-Forward workflows
  - Email binding
  - Generic Store-and-Forward binding for implementation using FTP, HTTP, etc. (for instance smart folders)

Out of Scope

- Defining Cloud federation interfaces and associated protocols and technologies.

- Defining the interface between the Cloud Imaging Manager and Imaging Device, specifically the interface for device and job status and job submission.

- Defining new protocols for authentication, authorization, and access control (AAA), enumeration, transport, notification, and device management.

- Defining new document file formats.

- Defining new abstract job tickets.

Phase 1 Milestones

When	What
Current	Formal Vote of Cloud Imaging Charter
Q2 2011	Initial working draft of Cloud Imaging Model and Requirements
Q3 2011	Initial working draft of Cloud Print IPP & SOAP Bindings
Q4 2011	Last Call of Cloud Imaging Model and Requirements
Q4 2011	Prototype working draft of Cloud Print IPP & SOAP Bindings
Q1 2012	PWG Last Call of Cloud Print IPP & SOAP Bindings

Next Steps

- Discuss any additional design requirements

- Discuss generic PDL driver with regard to Cloud Printing

- Develop an initial working draft of Cloud Imaging Model and Requirements

- Develop an initial working draft of Cloud Imaging IPP Binding

- Develop an initial working draft of Cloud Imaging SOAP Binding

Cloud WG Participation

- We welcome participation from all interested parties
- Cloud Working Group Web page
  - http://www.pwg.org/cloud/index.html
- Cloud Working Group Wiki
  - http://pwg-wiki.wikispaces.com/Cloud+Imaging
- Subscribe to the Cloud mailing list
  - https://www.pwg.org/mailman/listinfo/cloud
  - cloud@pwg.org
- Cloud WG holds bi-weekly phone conferences announced on the Cloud mailing list
  - Next conference call is April 25th, 2011 at 1 pm (EDT)
  - Conferences on opposite weeks of IPP WG calls