

Cloud Working Group

April 5, 2011

Cupertino, CA

Introduction

- Cloud-based applications and solutions are increasingly common
- Cloud-based printing is emerging in several different forms
- A series of BOF meetings focused on modeling and understanding the use cases, requirements, and existing implementations
- At the last PWG F2F meeting in HI we decided to move from a BOF and form the Cloud WG as an official PWG WG.

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

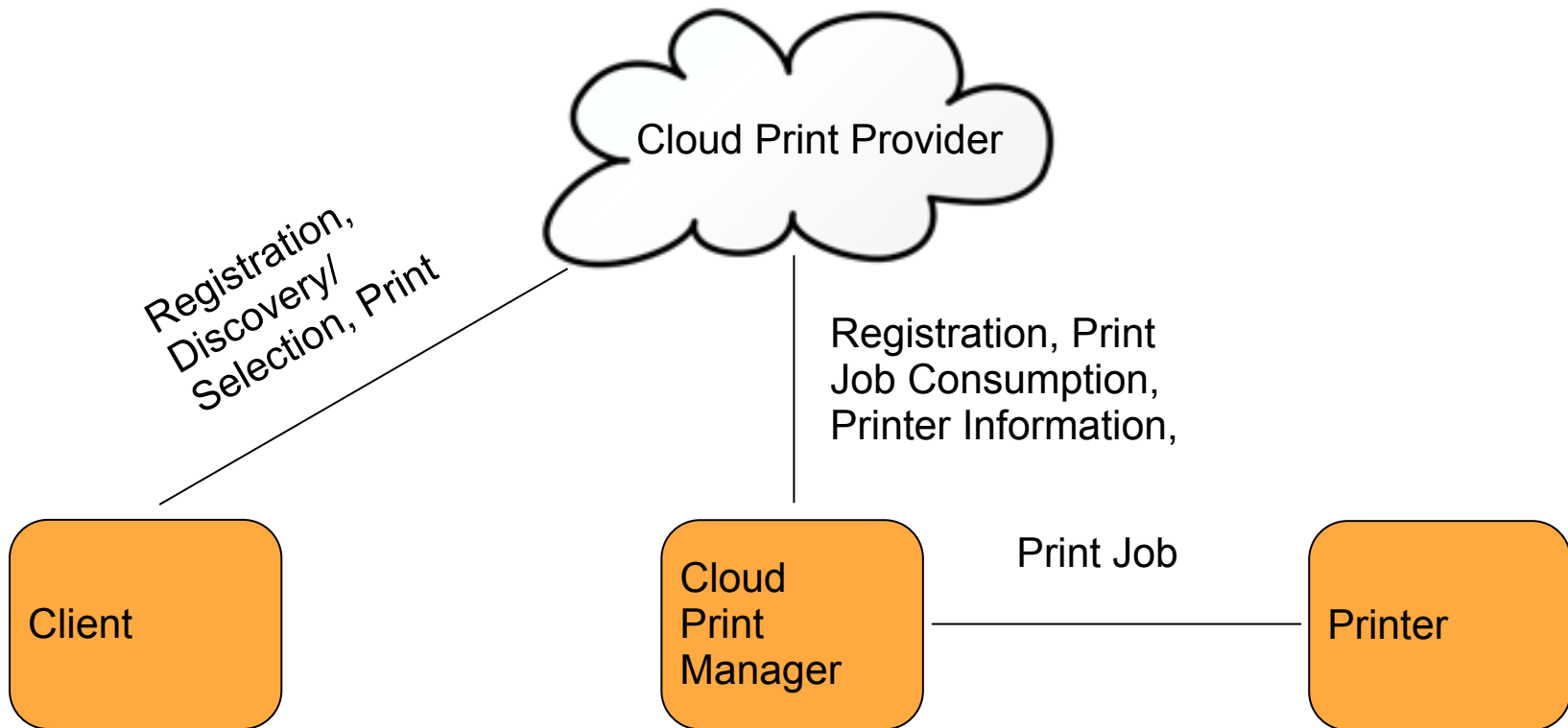
Functional Model

- **Cloud:** an on-demand shared computing resource available over a network, typically the public Internet or a company's private intranet
- **Cloud Printing:** any solution that connects a Client to a Printer through a shared Cloud Print Provider
- **Cloud Print Provider:** the software component that manages printing between Clients and Cloud Print Managers
- **Cloud Print Manager:** the software component that implements the interface between the Cloud Print Provider and Printer

Functional Model

- Client: standard IPP definition
- Printer: standard IPP definition
- Registration: process by which a Client or Cloud Print Manager associates itself with the Cloud Print Provider
- Discovery/Selection: process by which a Client finds candidate Printers and selects one for a subsequent print job

Functional Model



Requirements

- Registration
 - Allows for privacy/security/access control
- Discovery/Selection
 - Enumeration and/or selection of available/registered printers
- Job Tickets
 - Standard 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

Requirements



- Event notification
 - Cloud Print Provider to Client
 - Cloud Print Provider to Cloud Print Manager
 - Cloud Print Manager to Printer
 - Printer to Cloud Print Manager
 - Cloud Print Manager to Cloud Print Provider
 - Cloud Print Provider to Cloud Print Provider
- Encryption for privacy/security
 - X.509 authentication/authorization
 - Encryption of all data between Client, Cloud Print Provider, Cloud Print Manager, and potentially Printer
- Logging/accounting
 - Security auditing, maintenance, billing

Requirements



- Firewall/router/network traversal
 - All connections between Client, Cloud Print Provider, Cloud Print Manager, and Printer need to be considered

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.

Upcoming Milestones



When	What
Current	Formal Vote of Cloud Imaging Charter
Q2 2011	Initial working draft of Cloud Imaging Requirements and Model
Q3 2011	Initial working draft of Cloud Print IPP & SOAP Bindings
Q4 2011	Last Call of Cloud Imaging Requirements and Model
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 requirements missed
- Discuss generic PDL driver with regard to Cloud Printing
- Develop an initial working draft of Cloud Imaging Requirements and Model
- Develop an initial working draft of Cloud Print IPP & SOAP Bindings

Cloud WG Participation

- We welcome participation from all interested parties
- Cloud Working Group Web page
 - tbd
- Cloud Working Group Wiki
 - <http://pwg-wiki.wikispaces.com/Cloud+Printing>
- 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