BMLinkS Overview for PWG Members

1. BMLinkS Goals
2. Specifications
    1. Discovery
    2. Job/Device Control
    3. Data Format
    4. UI Guideline
3. Applications
4. Future

Printer State Extension

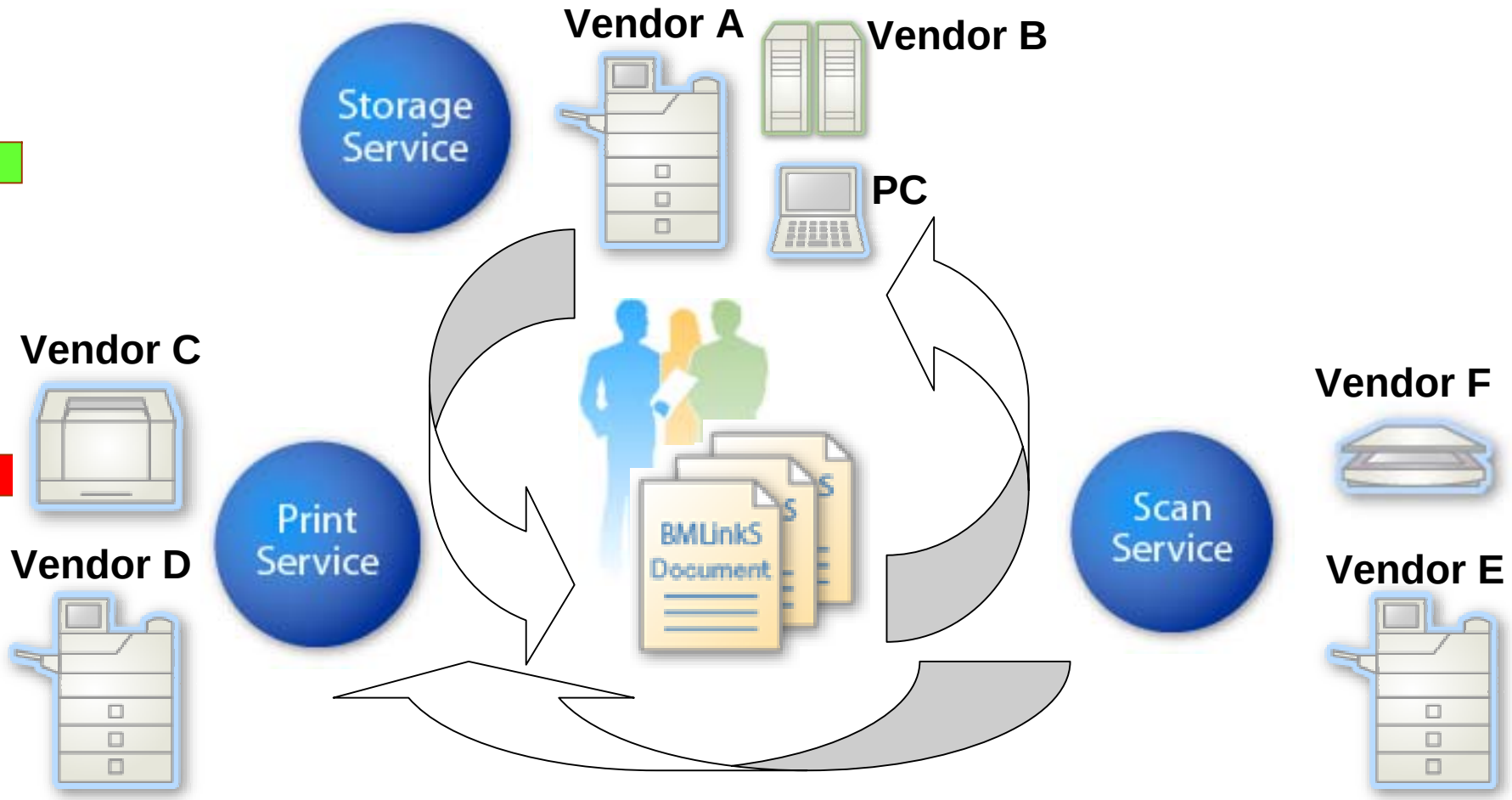
Thank you for considering our request

Goals

- BMLinkS is the interface for Office Devices
  - MFP, LP, and Scanner
- Office Devices are network nodes providing services
  - More than simple I/O Devices
  - Interact with each other: Push Print, Print-from-Storage, Scan-to-Print, Scan-to-Storage

  => Provides Services
- Catch Phrase: Find, Connect, and Use

BMLinkS Services



Specifications

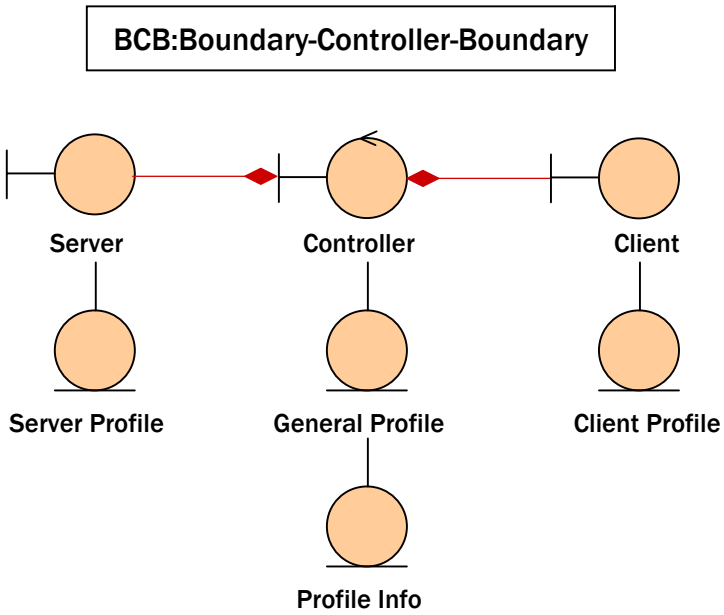
- **Discovery**
  - Intranet and Internet
- **Job/Device Control**
  - Operation Models for Print, Scan, Storage, Fax-In, Fax-Out, Notification
- **Data Format**
  - Common data format for all office services
- **UI Guideline**
  - MFP/LP/Scanner Panel Operation flow for BMLinkS operations

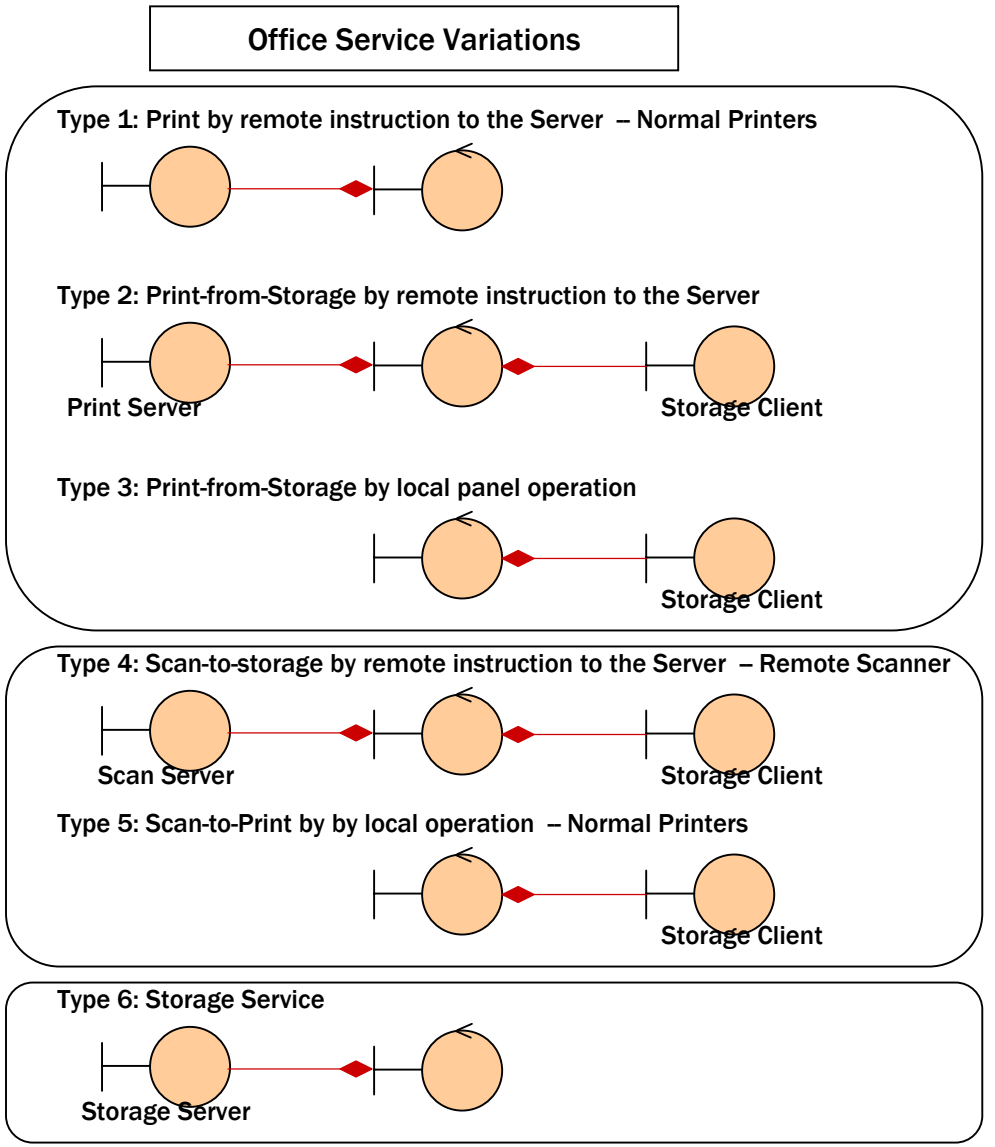
Discovery

- Available Technology
  - UPnP was for Home, not for office
  - SNMP broadcast available
  - No WS-Discovery yet
- Need something for Office (LAN & WAN)

- Solution:
  - Multicast & Discovery Server with SOAP support
  - Multicast Limited to within one network segment
  - Client discovery

Discovery: BCB Model



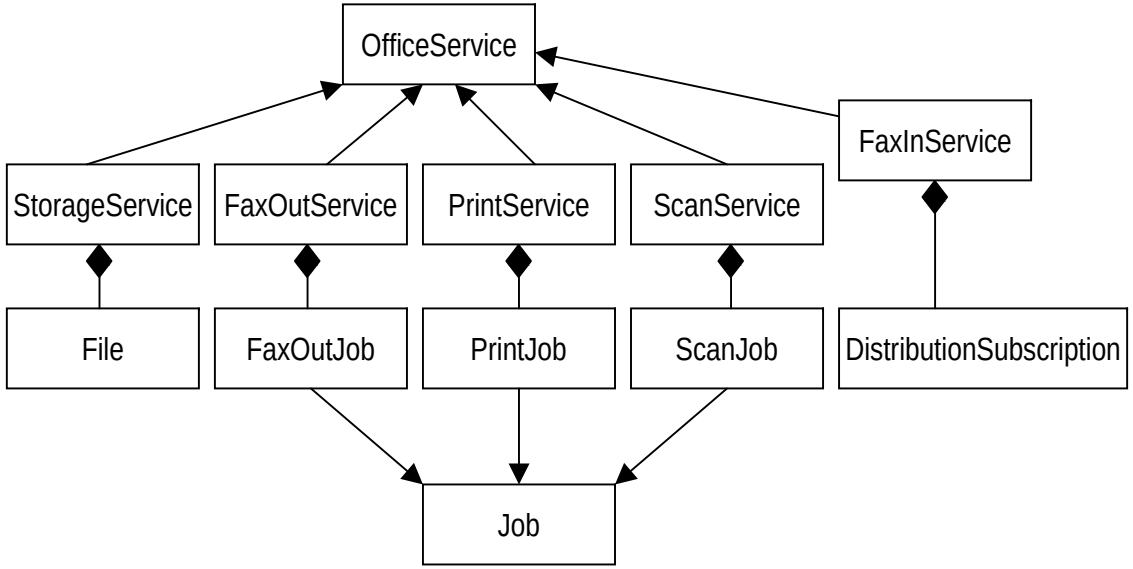


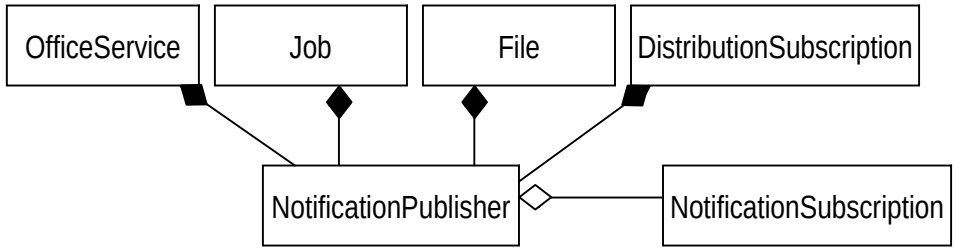
Job/Device Control

- Available Technology
  - LPD, IPP, Port 9100 – Printing Only
- Need protocol to control Print, Scan, Storage, Fax-In, Fax-Out
- Need Notification

- Solution
  - Extend IPP model and semantics to support Scan, Storage, Fax
  - Use SOAP + HTTP

Job/Device Control Model





Data Format

- Available Technology
  - No defacto PDL in Japan
  - PS/PDF too complex/expensive/optional
- Need common data format for compatibility for Print/Scan/Storage

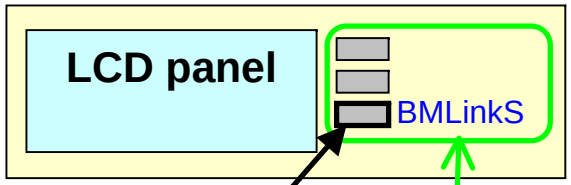
- Solution
  - TIFF
  - MH for B&W
  - Multi-page JPEG for Color

UI Guideline

- Scan-to-storage & Print-from-Storage require MFP panel operation
  - Scan settings
  - Mail-to address or Storage destination & login info
- Vendors design proprietary easy-to-use GUI
  - Operation paradigm different among vendors
  - Users confused to operate different MFPs
- Need similar UI design paradigm for ad hoc use
- Solution:
  UI Guideline describes the common operation model

UI Guideline

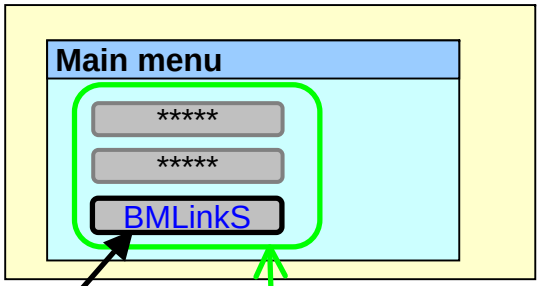
Panel with hardware buttons



BMLinkS button

Initial selection by hardware buttons

Panel with software buttons

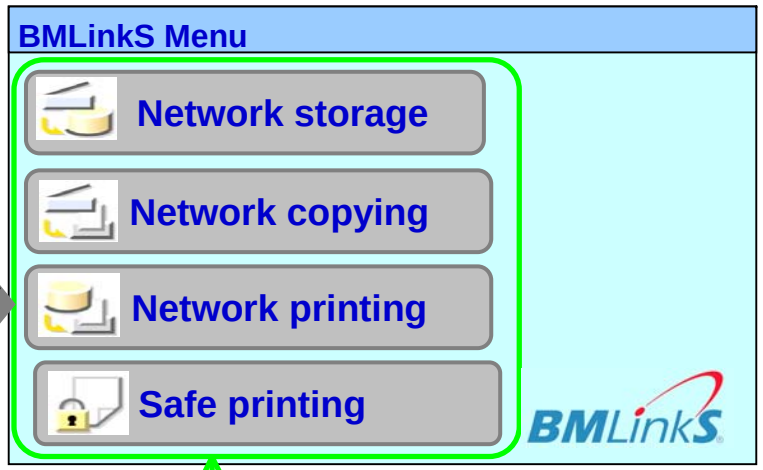


BMLinkS button

Initial selection by software buttons

Press BMLinkS button

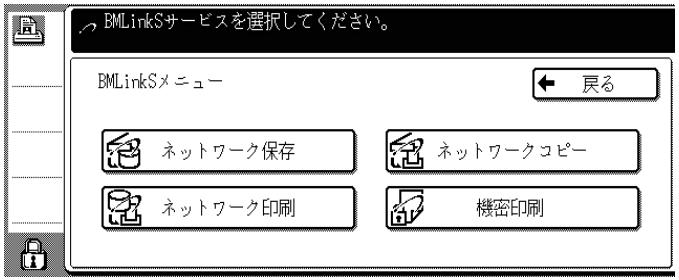
Example of BMLinkS menu screen

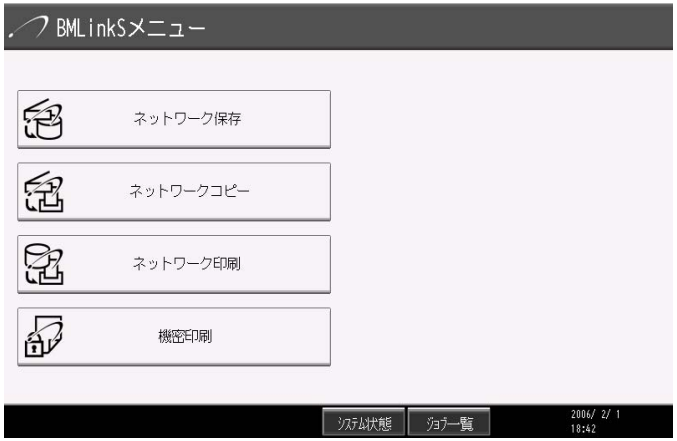


BMLinkS function selections

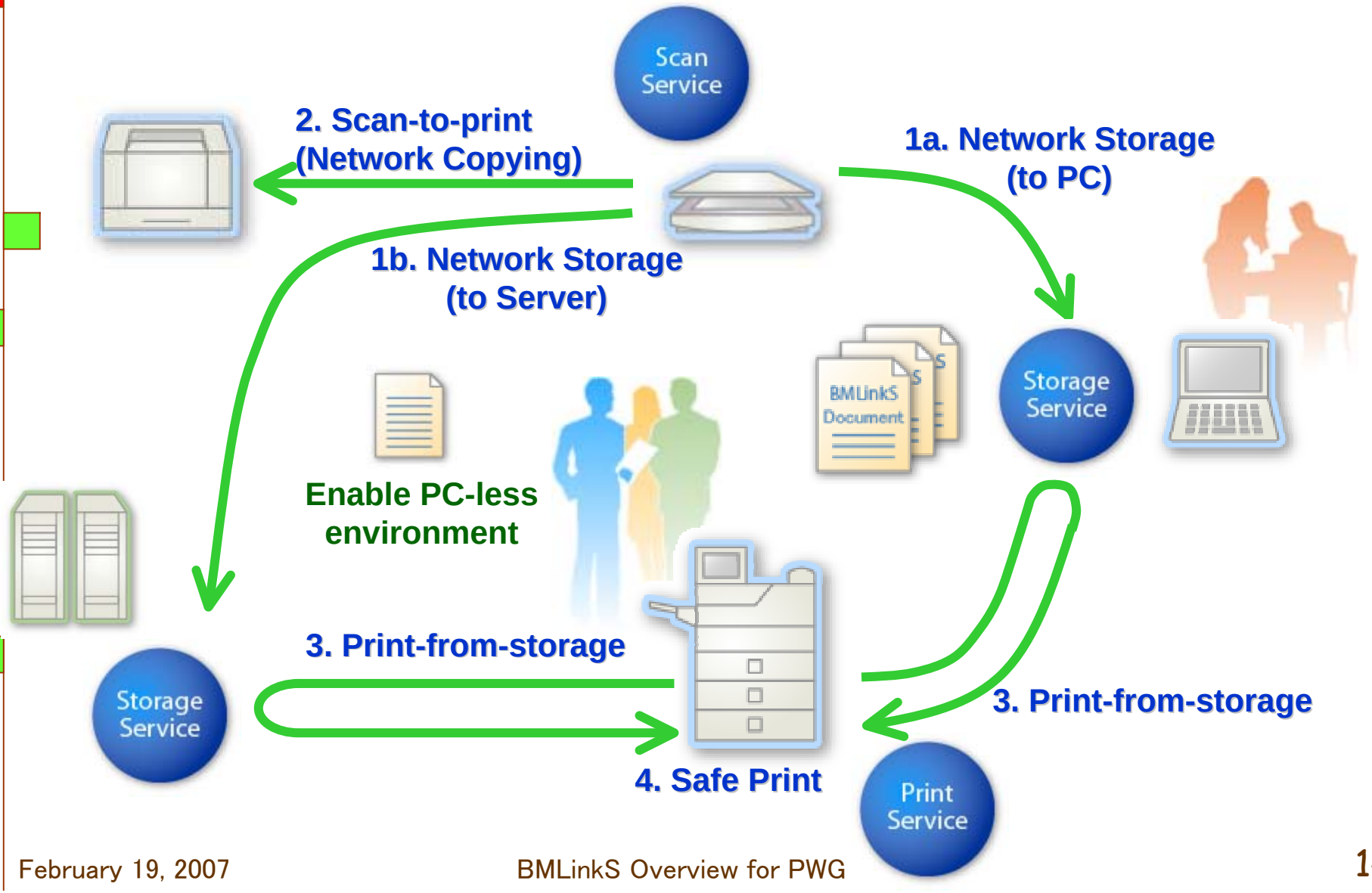
Common operation flow of four basic functions defined by BMLinkS

UI Guideline Prototypes



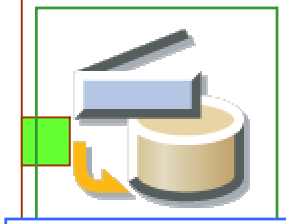


Document Distribution Infrastructure

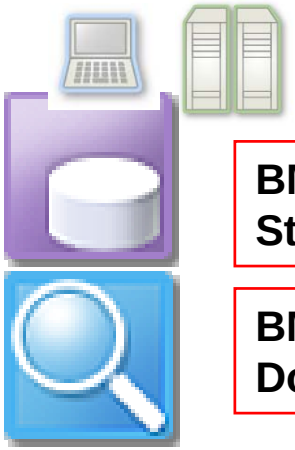


Scan-to-Storage

To your usual document server



Any BMLinkS Scanner



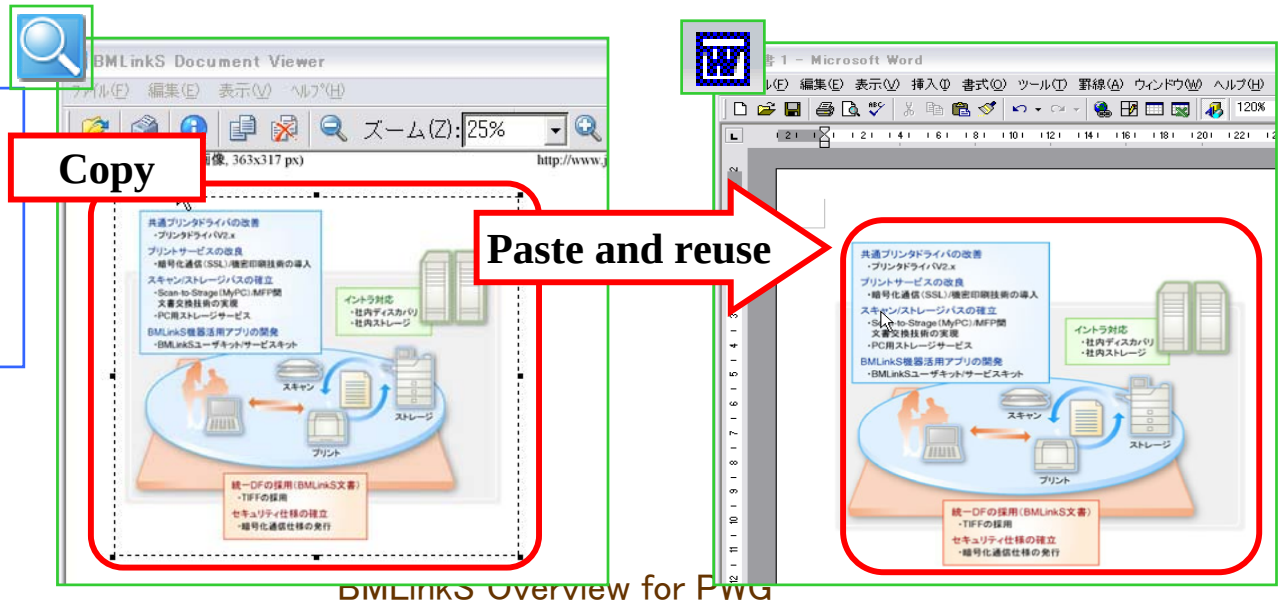
BMLinkS Common Software

BMLinkS Storage Service

BMLinkS Document Viewer

1. Make notes in handouts, and distribute the marked handouts

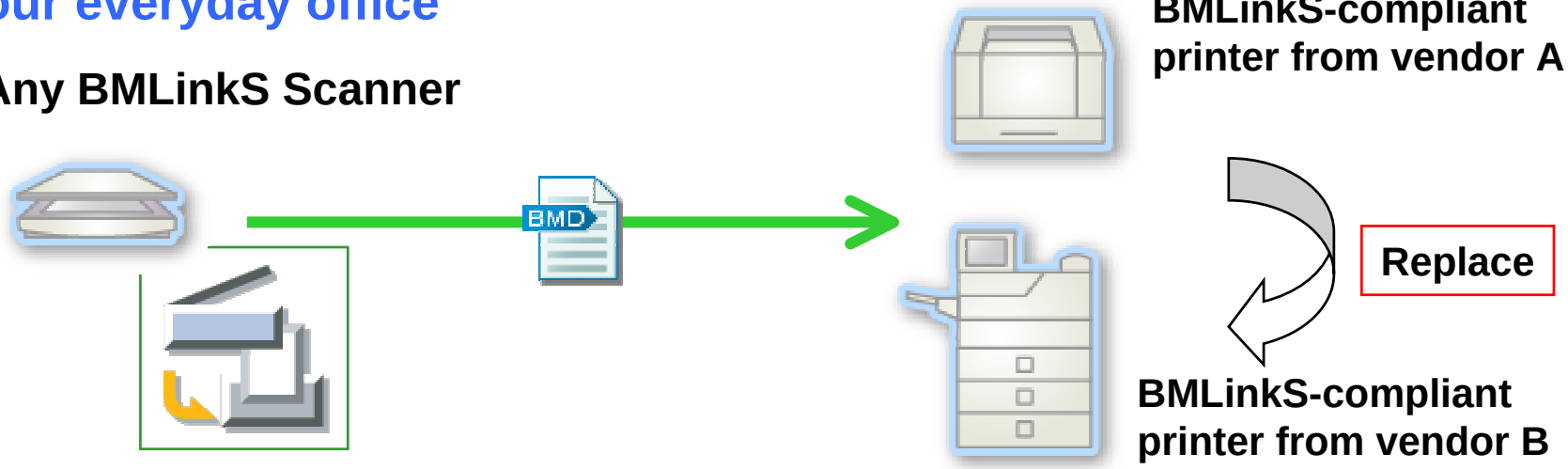
2. Reuse documents with Document Viewer



Scan to Print (Network Copy)

In your everyday office

Any BMLinkS Scanner



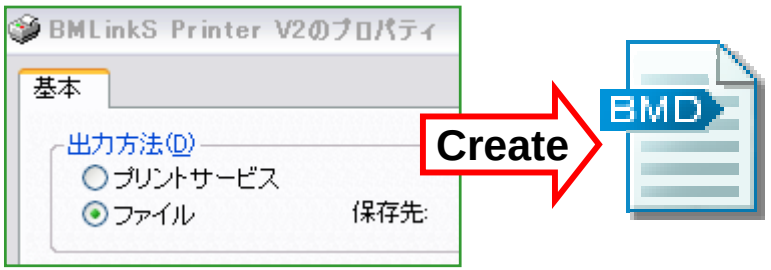
1. For large-volume printing, scan-to-print with the nearby high-speed printer.

2. Because of the common specifications among multiple vendors, printing is possible even after the device is replaced by a device from a different vendor.

Print-from-Storage

Any printer supporting BMLinkS Storage Service

BMLinkS Storage Service

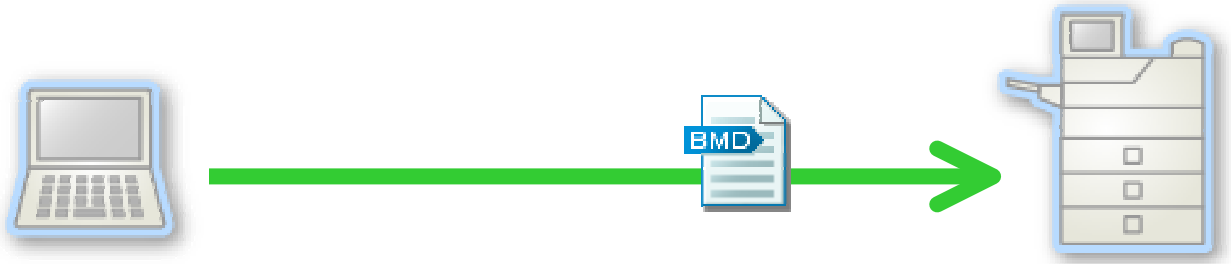


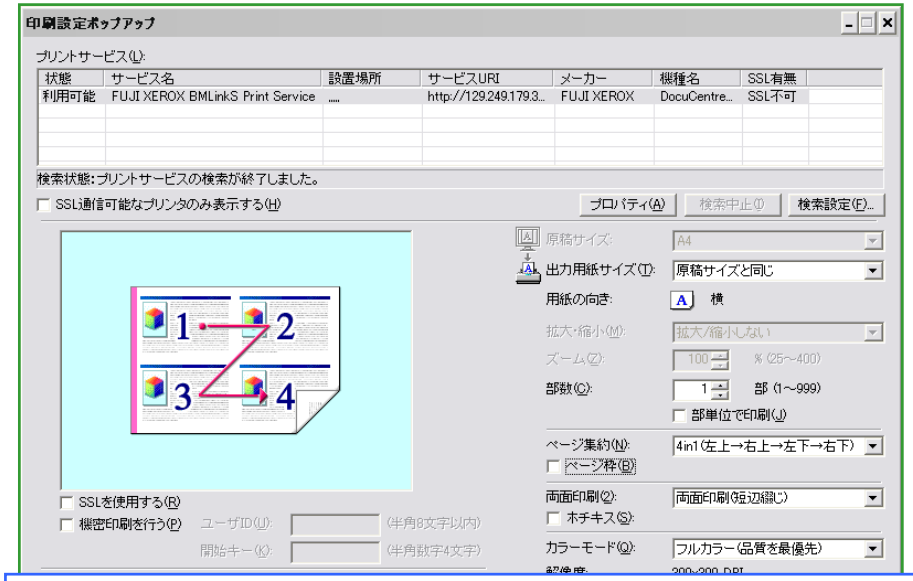
1. Create handouts and convert to a BMLinkS Document using Printer Driver, and save in the Storage Service.

2. Just before the meeting, use nearby device to discover your Storage Service and print the handouts.

Safe Print

When printing with printers in non-secure places





1. Discover BMLinkS printers using Printer Driver

Safe Print function of BMLinkS printer

2. Use safe printing function to print documents only after you are at the printer

BMLinkS Certification

- Verify the interoperability of Office Services and Clients.
- Certification tools and specification available to the BMLinkS members
- Self Test – test and submit the test log
- Certified products can use the BMLinkS Logo

BMLinkS Logo

Products

- Numerous BMLinkS-Ready devices support BMLinkS Printer
- MFPs supporting BMLinkS Scanner starting to hit market since November 2006
- Software distributed by BMLinkS Project
  - BMLinkS Printer Driver
  - Storage Service (PC-based)
  - BMLinkS Document Viewer

Future

- Discovery
  - Currently limited to within the same segment
  - Support search/query mechanism for Intranet
- Security
  - Security Assessment
- Data Format
  - Add PDF support
- Device Management
- Web Service (SOAP 1.2 support)

BMLinkS Members

Big Valley Co., Ltd.
Brother Industries Ltd.
Canon Inc.
Casio Computer CO., LTD.
Duplo Corporation
Fujitsu Corporation
Fuji Xerox Co., Ltd.
Grape Systems Inc.
Konica Minolta Business Technologies, INC.
KYOCERA MITA CORPORATION
Panasonic Communications Co., Ltd.
Ricoh Co., Ltd.
Riso Kagaku Corporation
Seiko Epson Corporation
Sharp Corporation
Toshiba Tec Corporation

Resources

- BMLinkS URL
  http://www.jbmia.or.jp/bmlinks/eng/
- Documents
  - Discovery Standard Specification
  - Job/Device Control Specification
  - Data Format Specification
- Your Organization's BMLinkS Members