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Introduction to VendPrint and Printing

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What is VendPrint

VendPrint is a program that monitors the flow of print jobs from our public workstations to our public printers, tracking information on each job printed by each public printer. It runs off of special-purpose computers called *release stations*, which hold print jobs for up to two hours while users work on other projects.

What is PrinterOn

PrinterOn is a Web service that allows laptops to send print jobs to some of our public printers via the World Wide Web. A print job are sent from the laptop to a remote server, which in turn sends the print job to the appropriate release station.

What VendPrint Does

What happens when a user sends a print job to a public printer?

1. The job first goes into an *input queue* for that printer on the print server LibXII, where it is held (paused).
2. VendPrint takes information identifying each job and displays it as an item in the list on its release station.
3. The user go to the release station, selects their job and presses Print.
4. VendPrint moves the print job from the input queue to the *output queue.*
5. When the print job reaches the top of the output queue, it is sent to the printer.
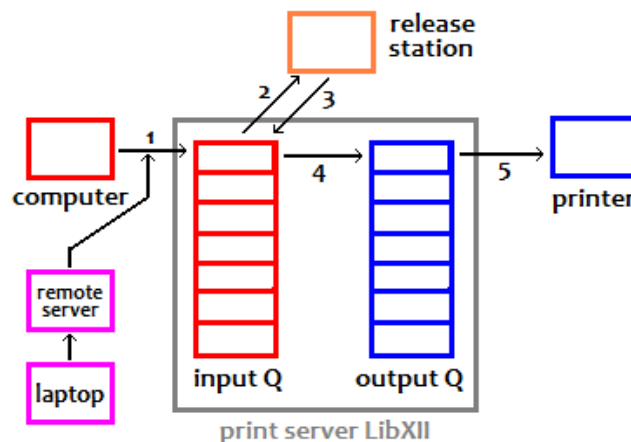
PrinterOn adds the steps of sending a print job to a remote server, which sorts out where the job is supposed to go, then sends the job to the appropriate input queue, from which VendPrint takes over.

Since the print jobs are on the print server rather than on the release stations, the jobs will be there for users even if the release stations are rebooted.

A print job remains in the input queue for two hours, at which point VendPrint deletes the job.

How Does A LaserJet Printer Work

A laserjet printer consists of one or more paper *trays*; a *paper path* with firm, rough-surfaced sheet *rollers*; a *toner cartridge*; a *transfer roller* underneath it; and a *fuser*. The cartridge holds the *toner*, a very fine black powder that is the printer's "ink", and the means to transfer that toner to paper.

Each print job, no matter what the document's original format, reaches the printer as a series of instructions on how to print the document. The printer interprets those instructions and tells the cartridge how to deposit the toner. The cartridge fires a laser on a photosensitive drum to give selected parts of its surface a charge. The drum then picks up toner on the charged parts of its surface, holds it until it reaches the paper, and then presses it onto the paper with the help of the transfer roller underneath. Then paper with toner enters the fuser, where it is pressed again and heated to hundreds of degrees in the fuser. The newly boned printout is then expelled out the top.

The Public Printers

HP LaserJet 8150dn

The make and model of most of our public printers are the Hewlett-Packard LaserJet 8150dn. All the printers have four trays (with the 2000-sheet feeder designated tray four), all of which are set in the printers to plain letter paper. The *dn* in the model number means that:

- each printer also has an internal *duplexer*, which flips paper over to allow printing on both sides; and that
- each has a *network interface card* which has a unique IP address set on it, so that the card is assigned, not to each printer, but to each location.

Card Swapping

That last point means that when a printer is swapped, the network cards was exchanged. Card-swapping saves time in getting a working printer online quickly, in not having to reprogram the card, and in avoiding a network conflict if swapped printers with the same IP address were connected to the network at the same time. It also provides Cannon IV,

our printer service contractor, a central place to make repairs in the LITS server room, where damaged printers are taken.

HP LaserJet P4515n

The Architecture and SHS libraries have the Hewlett-Packard LaserJet P4515n for their public printers. Architecture has three trays (the third being a 1500-sheet feeder); SHSL has only two. Their network cards are built into the printers, making card swapping impossible. For this reason, it is likely that repairs to any P4515n will be done on-site rather than in the server room.

VendPrint Problems

VendPrint is gone.

The release stations are set up in *kiosk mode*, in which VendPrint is the only program running. If it is gone, do a Control-Alt-Delete to bring up Windows Security; press Shut Down, choose Restart from the dropdown list, and press OK. VendPrint will come back up after the restart. *No print jobs will be lost.*

Print job not on list at release station.

It is possible that the user sent a print job to one printer, thinking that it is sent to another. Check all the release stations first.

If the print job is not found, it is likely that the job *did* made it into the input queue, but in such a damaged state that VendPrint cannot recognize it as a print job. If so, the job is unprintable; it will remain in the queue until it is removed by hand.

Print job on list, but print button greyed out when highlighted.

This kind of print job happens, but not very often. VendPrint has never figured out why this happened, even though I found and submitted samples of print jobs that cause this in the release station.

Fortunately, this kind of print job is rare.

Print job released, but does not print.

This kind of problem is usually associated with *error 79.x*, explained below.

Print job prints — garbage!

This happens when a public printer is turned off during a print job. The output queue simply pauses, waiting for the printer to come back on. After the printer is switched back on, the print job resumes: But, without any idea of the format of the print job, the printer works on raw data, printing junk characters on page after page.

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The best thing to do is to hit the Cancel button on the printer panel until the print job disappears.

PDF printing problems.

PDF files from the online services, like EBSCO, sometimes behave in strange ways, especially in printing one or a few pages and then skipping the rest. You can get around this in the Print dialog box by pressing the Advanced button, checkmarking Print As Image, and pressing OK twice.

Print job removal.

Print jobs can be removed from the queues only by LITS staff, such as for deleting malformed jobs from the input queue or jobs in the output queue to relieve an *error 79* problem.

VendPrint can be set up on the release stations to allow users to delete print jobs. But there would be the issue of users deleting the print jobs of other users, either accidentally or on purpose. That's why on-site print job deletion is turned off.

Print job redirection.

It is not possible to redirect a print job from one printer to another when the first printer is down. The user will have to send the print job to another printer.

PrinterOn Problems

what cannot be printed

[The Wireless Printing FAQ](#) covers most of the problems associated with wireless laptop printing. Basically, uncommon and specialized formats such as for Microsoft Works, IBM/Lotus Suite applications, Adobe Creative Suite (except PDF) and SPSS are unprintable.

Such documents have to be converted into a printable format (Office 2003, PDF, plain text, JPEG/GIF/PNG/BMP images) before uploading them to PrinterOn.

Office 2007 (PC) and 2008 (Mac) formats are now printable.

When a user reports that they cannot print to wireless printing, first check the source program and the extension of the document they are trying to print. If the document is in an unprintable format, the Wireless Printing site will give the user an error message and will not pass the print job on.

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page limits

The maximum number of pages a user can print from their laptop is **thirty (30) pages**. This has been set to encourage paper conservation, and is enforced from the server end. If a user prints more than thirty pages, the job will cut off at the thirtieth page.

If the user must print more than thirty pages, they will have to break up the document, or (better) in the Print box use Print Range to print in thirty-page segments.

mass printing outage

A mass inability to print from laptops may be caused by either

- our wireless network being down; or
- the PrinterOn server being down.

Let LITS know at once so that we can contact UCS (for campus wireless loss) or the PrinterOn company (for server loss) to get the problem resolved.

Mac Printing Problems

What iMacs Print to Where

iMacs in Reference print to all Reference public printers, with printer #1 as the default.

iMacs in Education Resources print to printer #7 as default, but can also print to printers #6 and #10.

iBooks and MacBooks use wireless laptop printing.

Adobe PDF is found as the default printer

This can happen, but it does not mean that the public printers are not available. Have the user open the printer list in the Print dialog box and choose a public printer.

Public Printers are down

When this happens it is okay to have Mac users print via wireless laptop printing until the printers are back online.

Color printing

Printing to the Canon color printers on either Reference or Periodical/Reserve is not available to the iMacs because Canon does not make the same custom driver used by the Windows workstations available to Mac OS X.

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Printer Maintenance

A printer is good for a given number of pages: 350,000 for an 8150dn, 225,000 for a P4515. When that limit is passed, you will see the message **Perform Printer Maintenance** on the printer panel.

There is nothing wrong with the printer itself. It will be fine for a few thousand pages more until LITS installs a *maintenance kit*, which includes new sheet rollers, a new transfer roller, and a new fuser. After the kit is installed the maintenance page count is reset; the kit is run through its paces with a paper path test; and the printer is good to go.

Printer Problems

Paper Jams

As explained above, paper takes a winding path through the printer until it reaches the toner bay. There the paper gets its toner from the cartridge pressed with the *transfer roller* and bonded with heat by the *fuse.* Finally the paper comes out into the output bin.

Here is a diagram of an 8150dn with points along the paper path where jams can occur.
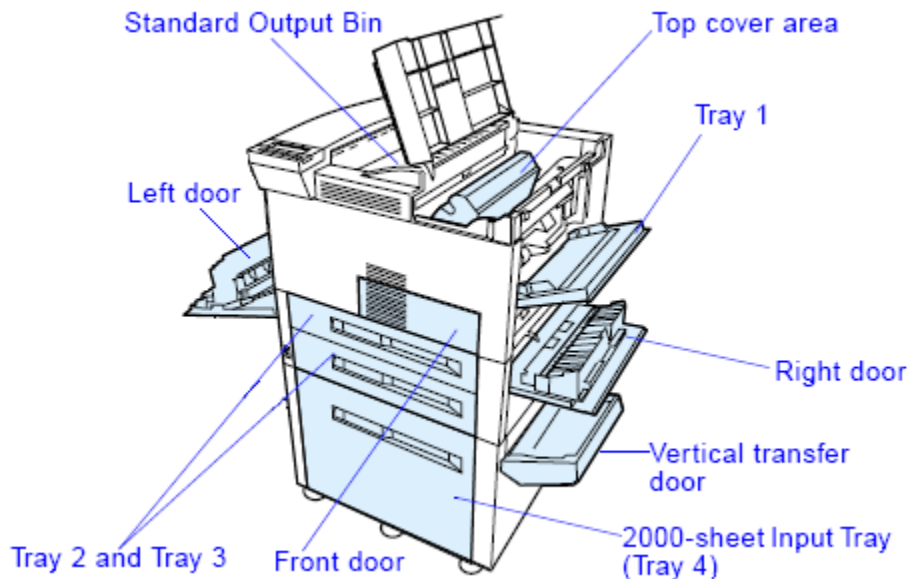
The most common causes of paper jams are:

- worn, smooth paper rollers
- excessive paper in trays
- wrinkled or dog-eared paper
- excess paper dust in path or on sensors
- worn fuser

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- poor synchronization along the paper path

LITS can replace worn rollers and fusers, and clean out excess toner and paper dust.

The internal partitions in the trays have trianglar marks that show the upper limit for paper. Do not load paper higher than these marks. Use only smooth, whole paper in the trays.

After checking the parts of the diagram for jams, you should also remove the toner cartridge, left the green handle in front, and check for accordian papers. Check the back of the output bin, for sometimes paper jams hide in there. Check the fuser, lifting the green tabs and **_very carefully_** removing the accordian paper.

If, after all this, you still get paper jam messages, it is time for LITS to swap the printer.

Squeaks

Squeaks can be caused by the same problems that cause paper jams. Or they can come from defective toner cartridges. If neither are the source of the squeaks it is time to swap the printer.

Streaks

Streaks may be dark or light. They may go horizontally or vertically across every page, or every other page, or every few pages. Streaks are usually caused by a leaking toner cartridge. Replace the cartridge. If the streaks continue, then the fuser is at fault, and must be replaced by LITS.

Ghost Text

Ghost text is the faint impression of a text on subsequent print jobs. The text has been burned into the fuser's heating element. The fuser will have to be replaced by LITS.

Faded Text

Faded text is a sign that the toner cartridge is out of toner, whether the cartridge was newly packaged or not. Replace the toner cartridge.

Toner Flaking Off

The fuser is broken and no longer bonding the toner on the pages. The fuser will have to be replaced by LITS.

Blotched or All-black Pages

The toner cartridge is broken inside, delivering a burst of toner badness. Have LITS come down to sweep out the toner bay. Then replace the toner cartridge.

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Error Fuser 50.x

A glitch has happened in the fuser. Turning the printer off and on usually fixes the problem. If not, LITS will swap the printer.

Error 79.x

The printer is wrestling with a badly-formed print job in the output queue. This is a LITS fix: The printer is turned off; the output queue is flushed of all its jobs (not just the bad one); and the printer is turned back on.

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