System Administrator's Guide to Integrating the Larson Network Printing Software into Landmark

The Larson Network Printing Software (NPS) is designed with integration in mind. It is very easy to do, and once your initial settings are configured, adding new queues is an extremely simple task. Here is how to do it step by step:

The lp method

NPS uses a special lp queue called "smartq" to route CGM files to the Larson Network Printing Software. This is essentially an alternative to the npsuser graphic user interface.

Before configuring smartq, NPS must already be set up and functioning using the npsuser interface. If you have not already done so, do it before continuing on with the smartq configuration.

How smartq works

What we do is create special lp queues on the plot server which routes CGM files to the Larson Network Printing Software (npsd).

For client machines to plot CGM files, therefore, a remote printer can be set up on the client system, thus enabling a user to submit a CGM file with the syntax:

lp -d<smartqname> <cgmfilename>

Naturally, this command is then integrated into the Landmark plotcap structure, which will be outlined below.

Configuring smartq on the plot server

First, edit the $LSTHOME/larson/lstbin/smartq. Search in the file for "plotter" and you will find a comment which says, "Change these for your system/ plotter".

Below this, edit the line for **$NPS_SERVER**, and enter the hostname of the plot server inside the double qoutes.

Leave **$NPS_PORT** alone.

$PLOTTER must be set to the name of the queue in NPS (not a system queue), that you wish this smartq to submit jobs to. For reference, run npsman, and pick the queue in there. Note the "\" before the @ sign. Leave this in--it is an escape character. For example:

$PLOTTER = "DesignJet_lp\@myservername";

$MODEL_DAT should only be changed if you are not submitting to a DesignJet plotter. For other plotters, the **$MODEL_DAT** line can be retrieved from the driver file used in npsman. This is the line which specifies the type of raster you want NPS to output. Contact support@cgmlarson.com for help.

$ENV{'LSTHOME'} should be set to the $LSTHOME path as seen from the plot server.

After editing these entries, save and exit.

As root on the plot server, enter the following command:

lpadmin -i smartq -p <the name you want to give the smartq> -v /dev/null

It is highly recommended to choose a name with the string "smartq" in it, so as to differentiate these queues from all others, since they are very special and will not work in other contexts than the Larson Network Printing Software.

Next do:

enable <smartqname>

and

accept <smartqname>

At this point, you should be able to lp a CGM file to the smartq as outlined above from the plot server, and have a job show up in npsman. However, the job will go to status "error" at first, because there is one more issue which will need to be addressed the first time you install a smartq, and that is /etc/magic.

/etc/magic

The plot server must be able to run a "file" command on a CGM file and recognize it as a CGM. This is because not all implementations of unix printing services preserve filenames, and therefore we must be able to get by without one. By default, most systems do not have the necessary */etc/magic* entry to do this. To find out, find a CGM file on your system (we have examples in $LSTHOME/larson/examples) and run the command:

file <cgmfilename>

It needs to return "binary Computer Graphics Metafile".

If it returns only "data", then you need to add the following line to your

/etc/magic file. Note that this is a platform specific line:

Solaris:

0 short&0xffe0 0x0020 binary Computer Graphics Metafile

IRIX:

0 short &=0xffe00020 binary Computer Graphics Metafile

AIX: (Note: AIX users must use the command line smartq, call Larson Support for details)

0 short &0xffe0=0x0020 binary Computer Graphics Metafile

Important: use TABs between the fields, except for "binary Computer Graphics Metafile"--spaces will not work. Copying/pasting from a previously edited file will fill in spaces instead of tabs, and will not work.

Try the "file" command again and see if it works. Once this change is in place, you will never again need to edit */etc/magic*, and you can add all the smartq's you want.

Integrating the lp command for smartq into Landmark:

Edit $OWHOME/hardcopy/plotcap. The syntax for the line you will add is:

other:/[full path to $OWHOME/hardcopy/bin]/[script.sh]:LGC_plotter:cgm

For example:

other:/apps/OpenWorks/hardcopy/bin/hp2000.sh:Larson_hp2000:cgm

This will create a plotter called Larson_hp2000 in the Landmark hardcopy routing menu. Then create the script you referenced in the hardcopy/bin directory. Here is the entire script:

```
#!/bin/sh
/usr/ucb/lpr -Php2000smartq $2
exit 0
```

We recommend the lpr command since it copies the file to /var before sending it, thereby keeping Landmark from deleting the file before it is completely sent.

Alternatively, you can use "*lp -c -d<queuename> <cgmfilename>*" if you wish. Make sure the permissions on this file are 755.

To add other smartq's to Landmark, simply add more lines to plotcap which reference different scripts in hardcopy/bin.

If you have any questions or comments about integration, please feel free to contact the Larson Customer Support Desk:

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