



Overview of NX Plotting

Steven Riches
UGS Corporation

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Steven A. Riches
Operating Systems Support
UGS Corporation
10824 Hope Street
Cypress, California 90630
800.955.0000 Tel
714.952.5371 Fax
Mailto:steven.riches@ugs.com
<http://www.ugs.com>



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- ▶ Basics of Configuring a Printer/Plotter
- ▶ Advanced Plotter Configuration
- ▶ Basic Plotting from NX
- ▶ Advanced Plotting from NX
- ▶ Defining Multiple Printer Groups
- ▶ Questions?

Notes:



Migration from Legacy Plotting



- ▶ UGS NX3 introduced a completely rewritten plotting subsystem
- ▶ The new plotting system is based on powerful commercial printing software developed by SDI (www.sdicgm.com), a UGS strategic partner.
- ▶ The new plotting system replaces the legacy plotting system. Legacy NX plotting functionality is not supported by NX3 or later NX releases.
- ▶ If you run NX2 or an earlier NX release concurrently with NX3 or a later NX release, then two different plotting systems are in use.



Why does NX3 provide a new plotting system?

A new NX plotting system was needed because legacy plotting functionality was outdated and inadequate. The legacy system was designed more than a decade ago, and it had not been updated to support newer printers or contemporary printing concepts or an easy-to-use graphical user interface. NX users had requested many enhancements that could not be effectively implemented in the context of the legacy plotting system.

It was essential to replace the legacy system with a new plotting system that provides modern printing features commonly available with other applications. The powerful features of the new system can significantly enhance the effectiveness and productivity of NX users.

Why does the new plotting system use commercial printing software provided by SDI?

The new plotting system is based on powerful commercial printing software developed by SDI (www.sdicgm.com), a UGS strategic partner. Basing the new system on commercial printing software provides NX users with capable, flexible, and up-to-date printing functionality.

SDI is in the business of and plotting, and also has extensive expertise in CGM (Computer Graphics Metafile), a graphics file format that NX produces for the new plotting system. Major NX customers already use SDI products, and SDI provides the printing/plotting capability in I-DEAS.

The UGS partnership with SDI means that NX customers can install other useful SDI products to obtain optional enhancements to printing and CGM functionality.

Can I still use the legacy plotting system?

No. The new plotting system replaces the legacy plotting system. Legacy NX plotting functionality is not supported by NX 3 or later NX releases. You cannot use legacy plot queues with these releases.

If you run NX2 or an earlier NX release concurrently with NX3 or a later NX release, then two different plotting systems are in use. The earlier release uses the legacy plotting system, and the later release uses the new plotting system. The two plotting systems are independent and do not interact with one another.



Configuring a Printer/Plotter

Notes:



Overview of Configuring a Printer/Plotter



- ▶ Create an operating system printer or queue
- ▶ Define a Printer Group
- ▶ Add a printer/plotter
 - ▶ Specify printer characteristics
 - ▶ Specify the OS printer or queue
- ▶ Define the ***UGII_SD1_SERVER_CFG_DIR*** environment variable
- ▶ Restart your Unigraphics NX session

A new NX plotting system is being delivered with NX3, which replaces Unigraphics legacy plotting (PQMGR). The new NX plotting system is based on the Basic Print Solution (BPS) software by SDI (www.sdicgm.com). For more detailed information on the NX plotting system, including Printer Administration, refer to the NX Online Help.

Please note that legacy plotting (PQMGR) is not supported in NX3 and later. While running NX3, you cannot access **OR** use the existing Unigraphics Plot Server service and queues previously defined in PQMGR.



Create an Operating System Queue



- ▶ On Windows workstations, use the 'Add a Printer' wizard to add a Local or Network Printer
- ▶ On a Unix workstation, use the available system management tool, or the printer manually using the 'lpadmin' command



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To add a local port on Windows

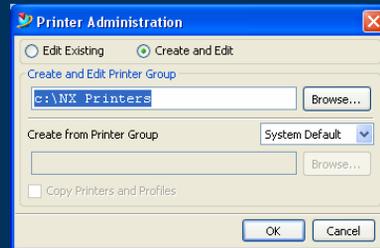
1. Open [Printers and Faxes](#).
2. Under **Printer Tasks**, click **Add a printer** to open the Add Printer Wizard, and then click **Next**.
3. Click **Local printer or stand-alone network printer**, clear the **Automatically detect and install my Plug and Play printer** check box, and then click **Next**.
4. Click **Create a new port**, click **Local Port**, and then click **Next**.
5. Type the port name, and then click **OK**.
6. Follow the instructions on the screen to finish adding a printer with the Add Printer Wizard.



Defining a Printer Group



1. Log in as the Administrator user (or root on UNIX)
2. Start NX4.
3. Click **File->Utilities->Printer Administration**
4. Select the **Create and Edit** radio button.
5. Enter a name to a non-existing directory where the printer group and associated files will be created
6. Click **OK**.



 Do not put a "space" in the directory name on UNIX platforms. An acceptable example of a directory name is "/usr/nx_printers"

This is the simplest configuration for NX plotting where NX is installed on the local computer with one or more printers defined.

To plot in NX, you first must define printer(s) in printer group(s) using **File->Utilities->Printer Administration**. After defining the printer group(s) and taking the necessary steps to tell NX of your printer group(s), you can direct plots to a particular printer by selecting the group and the printer via **File->Plot**.

A system may have just one single printer group or multiple printer groups defined. A system administrator can define printers in a single printer group or multiple printer groups to be shared by all NX users.

Do not put a "space" in the directory name on UNIX platforms. An acceptable example of a directory name is "/usr/nx_printers".



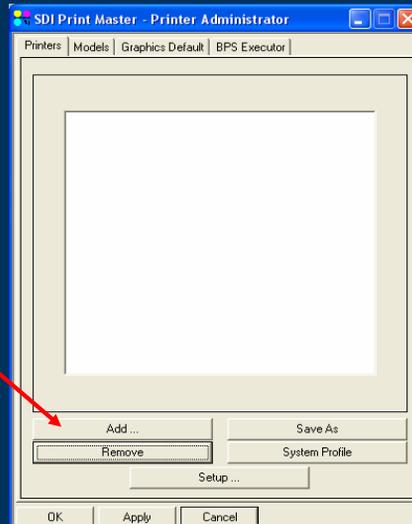
The printer group CAN be on a mapped network drive (Windows) or on an NFS volume (Unix). NFS mounts should be HARD mounts and not SOFT mounts.



Adding a Printer/Plotter



- ▶ The Printer Administration is now ready to add printers.
- ▶ To add a printer, click on **Add...**



Notes:



Specifying Printer Characteristics



1. Enter a unique name for the printer.
2. Select a printer model from the drop-down list.
3. Specify the appropriate queue/device and execution options
4. Optionally, specify any initialization or reset files used by the printer
5. Click Advanced Options to enter command-line parameters to customize the rendering process that converts a CGM input file to the plot output format

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1. Be sure you're in the Printer tab. Click Add.
2. On the Printer Setup dialog box, enter a unique name for the printer.
3. Select a printer model from the drop-down list.
4. Specify the appropriate queue/device and execution options:
 - If you select NT/Queue, select an available local printer from the list. This printer must be available from the user's workstation.
 - If you select LP/Queue, enter just the queue name. If you select LPR/Queue, enter the queue name plus the appropriate switches and parameters. On Windows use the LPR Queue to specify a remote queue that is not defined on the local workstation using UNC notation. e.g., \\server\queue
 - If you select Device, enter the path and device name.
 - Select Render File, and then Execute Program. This renders the CGM file to a device-specific file and passes the file to another program or script. Enter the full executable path and any arguments.
 - Select Execute Program on Input File to execute a specified program on the CGM file.
5. Optionally, specify any initialization or reset files used by the printer:
 - [Initialization File](#) is the path and filename of a file containing esc sequences and/or device commands that are prefixed to the output file.
 - Reset File is the path and filename of a file containing esc sequences and/or device commands appended to the output file to reset the printer.
6. Click Advanced Options to enter command-line parameters to customize the rendering process that converts a CGM input file to the plot output format (e.g. RTL, HP-GL/2, or PostScript).
7. Click OK.
8. You can add multiple printers using the same steps.
9. **Exit out of NX.**



The NX Plotting Environment Variable



- ▶ Define a new system environment variable to identify the printer group for NX.
- ▶ The environment variable ***UGII_SDI_SERVER_CFG_DIR*** defines the path of the Printer Group directory you defined.

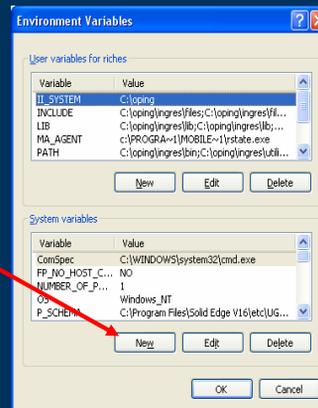
Notes:



Defining Plotting Variable on Windows



- ▶ To set this variable, select **Start->ControlPanel->System->Advanced->Environment Variables**.
- ▶ In System Variables (bottom half), click **New**
- ▶ Enter the variable and value information in the **New System Variable** window
- ▶ Select **OK** to add the variable



Notes:



- ▶ On Unix systems, the plotting environment variable can be set in several locations;
 - ▶ In the global profile script
 - ▶ */etc/profile*
 - ▶ In the appropriate global C shell login script
 - ▶ */etc/csh.login* {HP}
 - ▶ */etc/login* {Sun}
 - ▶ In the CDE settings script
 - ▶ */etc/dt/config/Xsession.d/xsession.ugs* {HP & IBM}
 - ▶ */usr/dt/config/Xsession.d/xsession.ugs* {Sun}
- ▶ For example, at the bottom of the */etc/profile* file, add the two lines:

```
UGII_SDI_SERVER_CFG_DIR=/usr/nx_printers
export UGII_SDI_SERVER_CFG_DIR
```

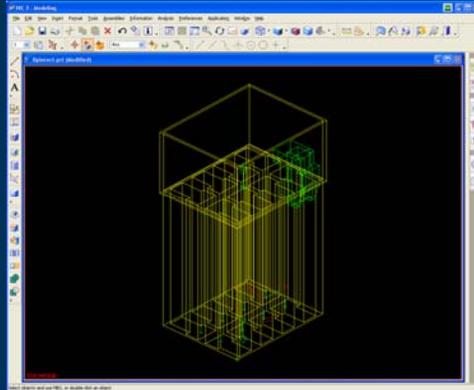
Notes:



Restart Your UG NX Session



- ▶ Restart your Unigraphics NX session
- ▶ You are ready to PLOT by selecting **File-> Plot**



Notes:



Advanced Plotting Configuration

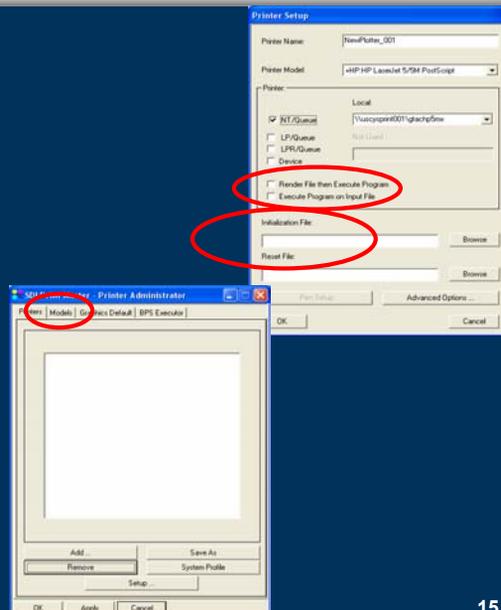
Notes:



Advanced Plotting Configuration



- ▶ Special printer execution options
 - ▶ Render File then Execute Program
 - ▶ Execute Program on Input File
- ▶ Initialization and Reset Files
- ▶ Creating your own Printer Models



This section discusses the ADVANCED options available for setting up plotting.



Special Printer Execution Options Render File then Execute Program



- ▶ Use this option to invoke a custom program to process the plot output file instead of dispatching it to a printer; for example, redirect the output to a directory or a database.
- ▶ The plot is first processed into HP-GL, Postscript, RTL, etc. before invoking the program
- ▶ The system passes the path of the plot output file as the last command parameter

```
C:\plot.bat  
copy outfile c:\temp\plots\outfile.ps
```

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•Render File then Execute Program: Use this option to invoke a custom program to process the plot output file instead of dispatching it to a printer. The program might redirect the output file to some directory or database, or it might parse the file for format conversion or validation. Enter the full path of the program plus any command parameters or switches in the entry field labeled "Full Executable Path and Arguments." The system fully processes the file for printing (e.g. converting it to RTL, HP-GL/2, or PostScript format) before invoking the program. When invoking the program, the system passes the path of the plot output file as the last command parameter.

•An example of a simple program would be

“copy outfile c:\temp\test.plt”

If you enter the full path to this program in the Render File then Execute Program option, it will copy your rendered plot to the file specified.



Special Printer Execution Options Render File then Execute Program



- ▶ More complex example... plotting PDF using Ghostscript

```
C:\plot.bat

@echo off
rem get filename into variable in case there are spaces in it
set name=%1
:loop
set name=%name% %2
shift
if not "%2"==" " goto loop
@echo on

"C:\Program Files\gs\gs8.53\bin\gswin32c.exe" -q -dSAFER -dNOPAUSE
-dBATCH -sDEVICE#pdfwrite -sOutputFile#"c:\temp\%name%.pdf" -c
"<</Orientation 1>> setpagedevice" -f "%cd%\outfile"
```

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1. Install GS
2. Add C:\Program Files\gs\gs8.53\bin and C:\Program Files\gs\gs8.53\lib to PATH system environment variable
3. Make a batch file (i.e. C:\nx_printers\ps2pdf-land.bat) containing the following:

```
@echo off
rem get filename into variable in case there are spaces in it
set name=%1
:loop
set name=%name% %2
shift
if not "%2"==" " goto loop
@echo on

"C:\Program Files\gs\gs8.53\bin\gswin32c.exe" -q -dSAFER -dNOPAUSE -dBATCH -sDEVICE#pdfwrite -sOutputFile#"c:\temp\%name%.pdf" -c
"<</Orientation 1>> setpagedevice" -f "%cd%\outfile"
```
4. Create new printer model (i.e. PDF) with following settings:
 - a. Feed Type: Sheet
 - b. Class: Postscript Level 2
 - c. For each standard size sheet in the model:
 - i. edit paper size
 - ii. set printable width and height to sheet dimensions to avoid "Image exceeds printable area" warning during plotting
 - iii. copy ps_ledger_init (in printer group dir) file to an appropriate name (representing sheet size)
 - iv. change the PageSize values to match sheet dimensions (the values are in points, 72 points = 1 inch)
 - v. set this file as the initialization file
5. Create new printer using this model
 - a. Render File then Execute Program: check
 - b. Full Executable Path and arguments: type full path to batch file (i.e. C:\nx_printers\ps2pdf-land.bat)
6. Edit System Profile of new printer
 - a. Print Setup Tab
 - i. Paper, Print Background Color, Color: set to most commonly used options
 - ii. Orientation: Landscape
 - iii. Scaling: Actual Size
 - b. Print Layout tab
 - i. Alignment: Horizontal, Vertical: both Center
 - ii. Translate: both 0



Special Printer Execution Options Execute Program on Input File



- ▶ Similar to the “Render File then Execute Program” option
- ▶ Use this option to invoke a custom program to process the CGM or TIFF input file generated by NX
- ▶ Enter the full path of the program plus any command parameters or switches
- ▶ The system does not process the CGM or TIFF input file for printing before invoking the program
- ▶ When invoking the program, the system passes the path of the input file as the last command parameter

•Execute Program on Input File: Use this option to invoke a custom program to process the CGM or TIFF input file generated by NX. Enter the full path of the program plus any command parameters or switches in the entry field labeled "Full Executable Path and Arguments". The system does not process the CGM or TIFF input file for printing before invoking the program. When invoking the program, the system passes the path of the input file as the last command parameter.



- ▶ Initialization and Reset files can be used with certain printers, such as the HP8500 or Xerox 8830, to activate features, such as tray selection or duplex options.
- ▶ **Initialization File** is the path and filename of a file containing <esc> sequences and/or device commands that are prefixed to the output file.
- ▶ Reset File is the path and filename of a file containing esc sequences and/or device commands appended to the output file to reset the printer.
- ▶ You can find sample initialization and reset files in the default printer group directory

`${UGII_BASE_DIR}/nxplot/config/pm_server`

When you define a printer, you can specify an initialization file containing printer commands to be inserted at the beginning of each output file dispatched to the printer. You also can specify a reset file containing printer commands that are appended to the end of the output file.

For a custom model you also can specify an initialization file used for a selected paper size. This is commonly used to switch paper trays. You also can use an initialization file to insert PostScript commands into PostScript output files to prepare them for processing by Adobe Distiller, or to embed HP-GL/2 commands in HP-GL/2 output files to add supplementary content, such as an informational banner.

Printer commands in an initialization file are commands and escape sequences in the language of the printer, which can be PCL/RTL, PostScript, or HP-GL/2, depending on the class of the printer model. The class is specified in the Properties - Printer Model dialog displayed when you click Properties on the Models tab of the Printer Administrator dialog.

Sample initialization files for typical uses are located in the default printer group directory (`${UGII_BASE_DIR}/nxplot/config/pm_server`). Sample initialization files for PCL (class RTL) printers have prefix "pcl5". Sample initialization files for PostScript printers have prefix "ps".

Create custom initialization files to meet your particular printing needs, perhaps by copying one of the sample initialization files and using a text editor to modify the copied file. For detailed information about printer language commands for your printer, consult documentation provided with your printer or contact Adobe (PostScript) or HP (PCL/RTL and HP-GL/2) for printer language documentation.

An initialization file can be prepended to:

- Every plot job for a particular queue.
- Only plot jobs of a particular paper size



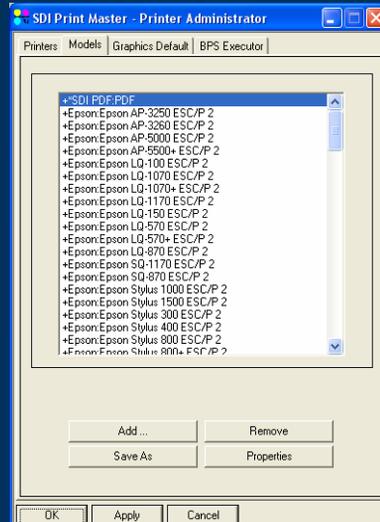
- ▶ Initialization file for Postscript printers to select the Legal paper tray

```
%%BeginFeature: *PageSize Legal
  << /PageSize [612 1008]
  /MediaType null
  /InputAttributes
  << 0 << /PageSize [612 1008] /MediaType null >> >> >>
  setpagedevice
%%EndFeature
```

Example of an initialization file that sets the page size to LEGAL. Initialization files seem to be needed for the Xerox class of printers.



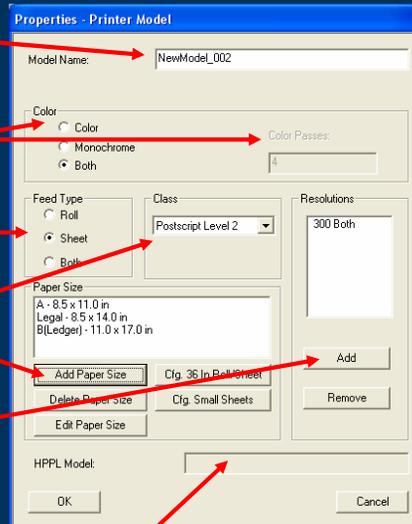
- ▶ **Add** - Displays the Properties so you can specify the name and characteristics of the new model.
- ▶ **Remove** - Removes the selected model from the list. You can remove only models you have added. Pre-defined models cannot be removed.
- ▶ **Save-As** - Copies the selected model and prompts you to enter a name for the copy. Use this operation if wish to add a model that is similar to an existing model.
- ▶ **Properties** - Displays Model Properties so you can edit the characteristics of the selected model
- ▶ You can only Change or Remove Models **YOU have created!**



Notes:



1. In the Models tab, pick Add.
2. In the [Properties - Printer Model dialog](#), enter a name for the printer model.
3. Define the properties of the printer:
 - a. Define the output as full color, monochrome, or both. Enter the number of color passes (typically 4 for CMYK).
 - b. Define the paper feed type: sheet, roll, or both.
 - c. Define the printer class. This is the printer's supported data format.
 - d. Enter the paper size specifications.
 - e. Specify the supported output resolutions for the printer. Pick Add to add a resolution to the list. Highlight a resolution in the list and pick Remove to delete it.
4. Pick OK to save the model definition.
5. The model now appears on the Models tab, and you can use it to define printers



Not Used

To add a model that is similar to an existing model definition, pick Save As. Give the printer a new name, and modify only the affected properties.

You also can remove previously added model definitions. Before you remove a model definition, be sure you remove any printers dependent on that model. You cannot remove system provided models.

To add a new model follow these steps:

1. In the Models tab, pick Add.
2. In the). [Properties - Printer Model dialog](#), enter a name for the printer model.
3. Define the properties of the printer:
 - Define the output as full color, monochrome, or both. Enter the number of color passes (typically 4 for CMYK)
 - Define the paper feed type: sheet, roll, or both.
 - Define the printer class. This is the printer's supported data format.
 - Specify the supported output resolutions for the printer. Pick Add to add a resolution to the list. Highlight a resolution in the list and pick Remove to delete it.
 - Enter the paper size specifications.

Be sure to check the printer's specifications and enter the correct values for paper size. Incorrect values can adversely affect print quality.

4. Pick OK to save the model definition.
5. The model now appears on the Models tab, and you can use it to define printers

NOTE: Once you have created a MODEL it is better to create a NEW one rather than edit an existing one.



- ▶ To add a model that is similar to an existing model definition, pick **Save As**. Give the printer a new name, and modify only the affected properties.
- ▶ You also can remove previously added model definitions. Before you remove a model definition, be sure you remove any printers dependent on that model. You cannot remove system provided models.
- ▶ It's a good idea to consult the printer's specifications before you define a new printer.
 - ▶ Be sure to check the printer's specifications and enter the correct values for paper size. Incorrect values can adversely affect print quality

Properties - Printer Model
Model Name Enter a name for the model. You may wish to choose a name that describes the class (e.g. PostScript) or characteristics (e.g. monochrome) of the model.

Color Select color or monochrome. If you select a color plotter, four color passes are required (CMYK).

Feed Type Select roll feed or sheet feed. Many plotters can accept both.

Class Many printers can take multiple input formats such as PostScript or HP-RTL. You must select one of these formats to define the printer model. Generally, RTL is the preferred format for ink-jet plotters as it requires no processing by the printer. Printers such as Versatec and compatibles, usually only accept open raster format.

Resolutions If multiple resolutions are available, add them here so you can select a preference.

Paper Size Specify the paper sizes supported by the plotter. You can click Add Paper Size to display the Paper Size Properties dialog in order to enter the physical and printable dimensions of each supported size. You can click Cfg. 36 In Roll/Sheet to quickly add roll sizes for 36, 24, 18, 12, and 9 inches, plus C, D, and E sheet sizes. You can click Cfg. Small Sheets to quickly add letter (A), legal, and ledger (B) sheet sizes. Click Edit Paper Size to modify options for a paper size. For example, you can specify an [initialization file](#) containing printer commands (e.g. commands to select a paper tray) that are executed for all jobs printed on paper of this size.

Consult the specification document for the printer to determine the sizes supported by the device. Incorrect size values can cause poor print quality.

HPPL Model This option is unused.



Basic Plotting in Unigraphics NX

Notes:



- ▶ The **File-> Plot** dialog and its subordinate dialogs permit you to specify a wide variety of options, including:
 - ▶ The colors and widths applied to plot geometry.
 - ▶ The tolerance or smoothness of arcs generated for plotting
 - ▶ The attributes of the banner, an optional block of text information that can be added to a plot.
 - ▶ The content of the job name assigned to the plot job.
- ▶ But if all you want is to get a scaled image on paper...



The plotting menus provide for a lot of features, but not all of the features are needed on a day-to-day basis

Many of the features can be ignored, and you can follow the “simple steps” to get an image on paper, assuming you have your plotter all set up...



The 1-2-3 Approach



1. Select **File-> Plot**

2. Select **Plot...**

3. Select **Print**

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1. Select **File-> Plot**
2. Select **Plot...**
3. Select **Print**



Advanced Plotting in Unigraphics NX

The plotting subsystem has a lot of features... not all of them will be discussed in this presentation. Take a look at the on-line documentation for more information.



The screenshot shows the NX Plot dialog box. Red arrows point to the following elements:

- Source:** The radio buttons for 'Display', 'Drawing Sheets', and 'Plot Layout'.
- Drawing Sheets:** The empty list area under the 'Drawing Sheets' tab.
- Widths:** The 'Use Standard Widths' dropdown menu in the 'Widths' section.
- Colors:** The 'Use As Displayed' dropdown menu in the 'Colors' section.
- Save CGM File...:** The button for saving the plot as a CGM file.

- ▶ **Source** - Specify what to plot by toggling Display, Drawing Sheets, or Plot Layout.
- ▶ **Drawing Sheets** - Use the Drawing Sheets list to select drawing sheets to be plotted.
- ▶ **Widths** - Use the Widths option menu to specify the widths that are recorded in CGM files generated for plotting
- ▶ **Colors** - Use the Colors option menu to specify the colors that are recorded in CGM files generated for plotting.

Source - Specify what to plot by toggling Display, Drawing Sheets, or Plot Layout.

- Display: represents the contents displayed in the current graphics window.
- Drawing Sheets: represents the drawing sheets selected in the Drawing Sheet List.
- Plot Layout: represents a plot layout, a combination plot assembled (via Add to Plot Layout) from multiple drawing sheets or display images from one or more parts.

Drawing Sheets - Use the Drawing Sheets list to select drawing sheets to be plotted. You also can select drawing sheets in order to modify the custom color or custom width settings stored for the drawing sheets in the part file.

Widths - On the General Settings tab, use the Widths option menu to specify the widths that are recorded in CGM files generated for plotting.

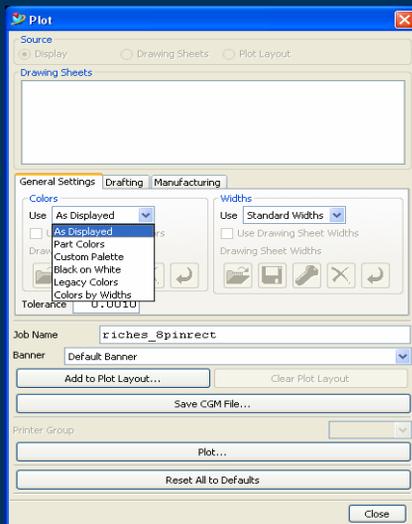
- Standard Widths: The system records fixed line widths (for 3 width indices).
- Single Width: The system records a single line width for all width indices. You can choose one of the standard widths, one of the custom 3 widths, or a user-defined width.
- Custom 3 Widths: The system records custom line widths per width index (for 3 indices).
- Custom Palette: The system records custom line widths per color index (for 216 indices).

When you select Single Width, Custom 3 Widths, or Custom Palette from the menu, the [Custom Widths dialog](#) displays for you to edit your session custom widths.

Colors - On the General Settings tab, use the Colors option menu to specify the colors that are recorded in CGM files generated for plotting.

- As Displayed: The colors used to display the geometry on screen are also recorded in the CGM file generated for plotting.
- Part Color: The colors in the part color table are used for printing.
- Custom Palette: You can use an alternate set of 216 colors for printed output. When you select Custom Palette from the menu, the Custom Colors dialog displays for you to edit your session custom colors.
- Legacy Colors: Geometry is printed using 15 fixed colors supported by NX releases before NX3, and each of the 216 colors in the part color table is mapped to the most similar of the 15 fixed colors.
- Black on White: Geometry is printed in black.

Use Drawing Sheet Colors - On the General Settings tab, toggle on Use Drawing Sheet Colors if you previously defined custom colors for a drawing sheet and want these custom colors to be used for printing the sheet. If you define custom colors for a drawing sheet, then the keyword Colors follows the sheet name in the Drawing Sheets list



- ▶ Use the Colors option menu to specify the colors that are recorded in CGM files generated for plotting.
 - ▶ As Displayed: The colors used to display the geometry on screen
 - ▶ Part Color: The colors in the part color table are used for printing.
 - ▶ Custom Palette: An alternate set of 216 colors for printed output. The Custom Colors dialog displays for you to edit your session custom colors.
 - ▶ Legacy Colors: Geometry is printed using 15 fixed colors supported by NX releases before NX3, and each of the 216 colors in the part color table is mapped to the most similar of the 15 fixed colors.
 - ▶ Black on White: Geometry is printed in black.
- ▶ **Use Drawing Sheet Colors** - If you previously defined custom colors for a drawing sheet and want these custom colors to be used for printing the sheet. If you define custom colors for a drawing sheet, then the keyword Colors follows the sheet name in the Drawing Sheets list

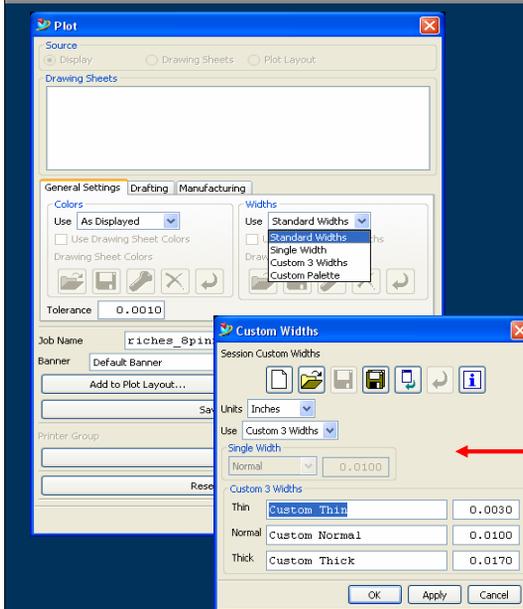
Colors - On the General Settings tab, use the Colors option menu to specify the colors that are recorded in CGM files generated for plotting.

- As Displayed: The colors used to display the geometry on screen are also recorded in the CGM file generated for plotting.
- Part Color: The colors in the part color table are used for printing.
- Custom Palette: You can use an alternate set of 216 colors for printed output. When you select Custom Palette from the menu, the Custom Colors dialog displays for you to edit your session custom colors.
- Legacy Colors: Geometry is printed using 15 fixed colors supported by NX releases before NX3, and each of the 216 colors in the part color table is mapped to the most similar of the 15 fixed colors.
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Use Drawing Sheet Colors - On the General Settings tab, toggle on Use Drawing Sheet Colors if you previously defined custom colors for a drawing sheet and want these custom colors to be used for printing the sheet. If you define custom colors for a drawing sheet, then the keyword Colors follows the sheet name in the Drawing Sheets list



Width Options in Plotting



- ▶ **Widths** - On the General Settings tab, use the Widths option menu to specify the widths that are recorded in CGM files generated for plotting.
- ▶ **Standard Widths**: The system records fixed line widths (for 3 width indices).
- ▶ **Single Width**: The system records a single line width for all width indices. You can choose one of the standard widths, one of the custom 3 widths, or a user-defined width.
- ▶ **Custom 3 Widths**: The system records custom line widths per width index (for 3 indices).
- ▶ **Custom Palette**: The system records custom line widths per color index (for 216 indices).
- ▶ When you select Single Width, Custom 3 Widths, or Custom Palette from the menu, the **Custom Widths dialog** displays for you to edit your session custom widths.

Notes:



More Advanced Features of File-> Plot



- ▶ Tolerance - Values must be positive. Smaller values produce smoother curves
- ▶ Job Name - Construct file names for CGM files generated for plotting.
- ▶ Banner - Add a banner (optional text information) to the plot output
- ▶ Save CGM File - Save the current plot in one or more CGM files that you can print later at your convenience.



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Tolerance Specify a tolerance value that controls the accuracy or smoothness of curves generated for plotting. Values must be positive. Smaller values produce smoother curves. Values smaller than .0001 are automatically reset to the previous value. The Tolerance option is an abstract or unitless value (neither inches nor millimeters).

Drafting Tab On the Drafting tab, select the checkbox next to Plot Raster Images in Drawing if you want visible raster images on selected drawing sheets to appear on plot output. If a drawing sheet has raster images, then the keyword Raster follows the sheet name in the Drawing Sheets list.

Manufacturing Tab On the Manufacturing tab, select the checkbox next to CLSF Data if you want tool paths to appear on the plot output.

Job Name When you assign a name to the plot job, the system uses this to construct file names for CGM files generated for plotting. The job name also can be an element of banner text.

Banner With the [Banner Options dialog](#), you can add a banner (optional text information) to the plot output, and control some aspects of the banner content and appearance.

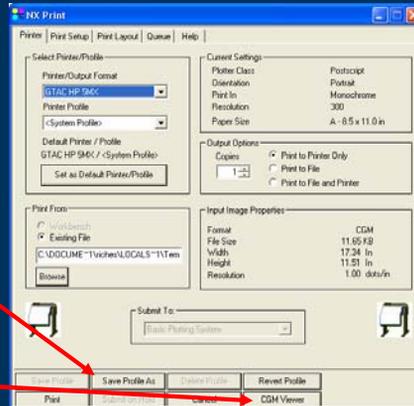
Plot Layout Manage the plot layout with the following two buttons:

- Add to Plot Layout: The system displays the Plot Layout dialog for you to arrange the current plot (either the display or a drawing sheet) on the plot layout. If you select multiple drawing sheets, the system displays the Plot Layout dialog repeatedly, once for each selected sheet.
- Clear Plot Layout: The system clears the plot layout.

Printer Group Use the Printer Group option menu to choose an NX printer group directory that you wish to access. Later, when you click the Plot button to dispatch your plot job, you can choose a printer in the selected group.



- ▶ Similar to a standard Windows Print dialog
- ▶ Allows you to set characteristics *specific* to your printer Model
- ▶ A group of settings can be saved as a Custom Profile
 - ▶ A profile contains information about printer setup and print layout.
 - ▶ A built-in CGM viewer is provided to enable you to view the CGM file to be printed.



Creating a Custom Profile

For each printer, you can create a number of custom profiles. A profile contains information about printer setup and print layout. You could create a personal profile for each printer you use regularly. Or, you could create multiple profiles for a single printer to handle different printing needs.

A profile stores the option settings you specify on the Print Setup and Print Layout tabs only. The profile does not include any option settings you specify on the Printer tab.

Creating a User Profile for the First Time

1. On the Printer tab, select a printer. The profile you create is associated with this printer.
2. Select the system profile for this printer.
3. Pick Print Setup. On this tab, you can select the paper size and orientation, set margins, scale the image, and set the resolution and color of the output. The exact options on this dialog box depend on the printer class. For HP-GL pen plotters, you can define virtual pen mappings. Pick [Pen Mapping](#) to map physical pens to positions you define.
4. Pick Print Layout. On this tab, you can further refine the scale and orientation of the image on the page, and align it exactly using the graphical preview.
5. When you're satisfied with the settings, pick Save Profile As. Give the profile a meaningful name.

Modifying an Existing User Profile

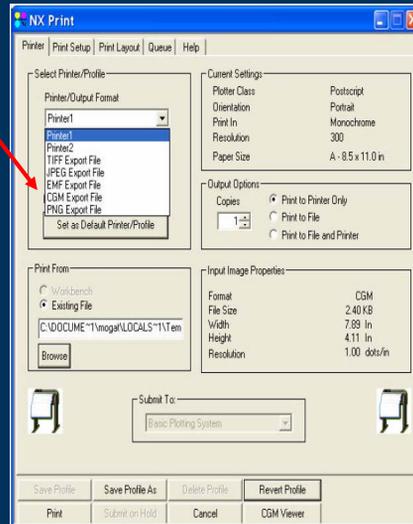
Frequently, you'll want to create a profile similar to an existing profile. For example, for the same printer you might create one profile for landscape orientation and another for portrait. You can save time by modifying an existing profile.

1. On the Printer tab, select a printer and an existing profile.
2. Pick Save Profile As. Give the new profile a meaningful name.
3. Modify any settings on the Print Setup and Print Layout tabs.
4. When you're satisfied with the settings, pick Save Profile.

CGM Viewer A built-in CGM viewer is provided to enable you to view the CGM file to be printed. Right-Click anywhere on the image to display a pop-up menu providing viewing/scaling options and image information. You can use the Select Viewport option in the menu to select a rectangular subregion of the plot in order to print only this portion of the plot.



- ▶ You can also select to output a plot file to disk in multiple formats, EMF, JPEG, PNG, TIFF
 - ▶ You can use the Default printer group **ONLY** to convert plot files from CGM to alternate format
- ▶ Similar to the **File-> Export** function in NX, but a different process is used



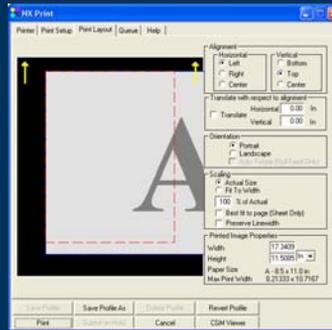
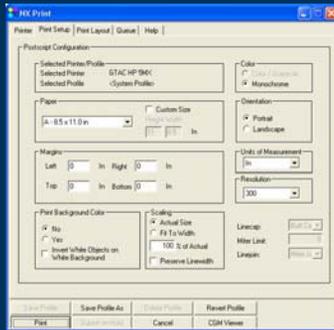
Print or Convert File Format

With the NX Print dialog, you can print the CGM or TIFF content file on a printer you select, or you can convert the file to another format (CGM, EMF, JPEG, PNG, TIFF) and save the converted file on disk. Also, you can click the Browse button in the NX Print dialog to select any previously saved CGM or TIFF file for printing.

In the NX Print dialog, you can select only printers that have been previously defined using NX printer administration software. You can use File --> Utilities --> Printer Administration to define printers.



Print Setup and Print Layout



▶ Page Setup

- ▶ Paper sizes
- ▶ Margins
- ▶ Page orientation
- ▶ Scaling

▶ Print Layout

- ▶ Detailed view of options
- ▶ Preview of page layout
- ▶ Drawing dimensions

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Print Setup

This dialog lets you change the characteristics of your output. You can define the size, margins, scale, and orientation of your plot.

The printer and profile selected are displayed at the top of this dialog. Default settings are defined when a printer is entered through the NX Plotting Printer Administration dialog. You can change these values at any time before you print. Save these settings as a profile so you don't have to reenter them.

NX Print dialog --> Print Setup tab

Selected Printer/Profile The printer and profile selected are displayed in this area. Default settings are defined when a printer is entered through the Printer Administration dialog box.

Paper You can select the paper type and size, such as roll or sheet. The paper sizes available are determined by the plotter model chosen during printer setup.

Margins You can align images on the paper using the Alignment options from the Print Layout tab and use margins to offset the image making it look more presentable. For roll paper, the vertical axis (top and bottom) is the left and right edges of the roll. The horizontal axis (left and right) is the feed direction. The leading edge is the left, and the trailing edge is the right. Sheet format is more conventional. The top of the sheet is represented as the top on the screen. You can set margins with the leading edge of the paper as the top. Left and right edges are maintained as left and right. Margins can be vital to plotting. Certain models have a limited printable area that crops images if you override it.

Units of Measurement A choice of millimeters (mm) or inches is available.

Color You can select color if it's available on the selected printer. Some devices are monochrome only (as set up by the administrator) in which case, this option is disabled.

Orientation Portrait aligns the x-axis with the short side of the plotter. Landscape aligns the x-axis with the long side. This rule applies to sheet-feed plotters, but it's reversed with roll-feed plotters. Here the y-axis is generally the leading edge of the paper as it's plotted.

Scaling This function only works with metric files. Abstract files, such as raster images, can only be scaled to fit the page as the files have no physical dimensions. Be careful when you scale (up), as the image is scaled to fit one direction (the scan direction). This may cause part of the image to be outside the printable area.

Print Background Color A background color is specified in CGM files generated for plotting, and in many cases, this background color is not white. You can set the Print Background Color option to No to avoid printing the background color. In this case, you can toggle on option Invert White Objects on White Background to print white geometry in black so it is visible on white paper.

The Invert White Objects on White Background option also causes any black geometry to be printed in white.

Resolution Select the desired printer resolution. These are defined in the Printer Administration utility.

Line Settings For PostScript printers only, you can set line cap (ends) and joining styles.

NX Print dialog --> Print Layout tab
Alignment This option lets you customize alignment of the image. Sheet paper lets you use left, right, or center horizontal alignment. Roll paper lets you place the image at the top, bottom, or center (vertical alignment). Align images carefully to avoid clipping. **Translate with respect to alignment** This is another method for aligning the image on the paper. When a sheet-feed plotter is used, adding positive values in either axis offsets the image from the origin (upper left) by a positive value. When a roll-feed plotter is used, positive values offset the image from the origin, which is the bottom right. The preview image to the left of the Translate values reflects the effect of the value used. Using negative values on either roll or sheet-feed plotters crops the image. **Orientation** Portrait aligns the x-axis with the short side of the plotter. Landscape aligns the x-axis along the long side. This rule applies to sheet-feed plotters but it's reversed with roll-feed plotters. Here the y-axis is generally the leading edge of the paper as it's plotted. **Scaling** Metric images can be plotted at actual size or as a percentage actual size. This function only works with metric files. Abstract files, such as raster images, can only be scaled to fit the page as the files have no physical dimensions. **Printed Image Properties** Define the Width, Height, measurement type (In. or MM.), Paper Size, and Max Print Width **Profiles (creating, changing, and deleting)** Once you have defined the settings for your printer (Orientation, Alignment, Scale, and so on), you can create a personal profile with unique configuration options for selected devices. Click the Save Profile button to save the current settings. This option is especially useful when two users need to plot from the same platform but require different settings. When you create custom profiles, you can use Save Profile and Delete Profile to alter or delete any profile other than the system default.



- ▶ Printer profiles are used to specify default settings
 - ▶ Paper size, orientation, scaling, alignment, etc.
- ▶ There are TWO different Printer Profiles
 - ▶ System Profile
 - ▶ Defined when the PRINTER is created
 - ▶ User Profile
 - ▶ A user-specific profile, that can be easily changed

Once you create a printer, you may modify the system **profile** for that printer. The system **profile** is the default **profile** that you see when you select a printer in Print. System **profiles** are read-only for users; you can't modify them, but you may create your own custom **profiles** from them. Select the printer and click System **Profile**. The procedure is the same as for user-defined custom **profiles**:

1. Specify the print setup and print layout
2. Save the **profile**

Creating a Custom Profile

For each printer, you can create a number of custom profiles. A profile contains information about printer setup and print layout. You could create a personal profile for each printer you use regularly. Or, you could create multiple profiles for a single printer to handle different printing needs.

A profile stores the option settings you specify on the Print Setup and Print Layout tabs only. The profile does not include any option settings you specify on the Printer tab.

Creating a User Profile for the First Time

1. On the Printer tab, select a printer. The profile you create is associated with this printer.
2. Select the system profile for this printer.
3. Pick Print Setup.

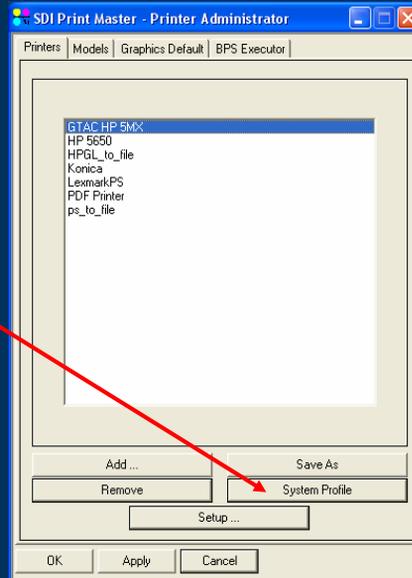
On this tab, you can select the paper size and orientation, set margins, scale the image, and set the resolution and color of the output. The exact options on this dialog box depend on the printer class.

For HP-GL pen plotters, you can define virtual pen mappings. Pick Pen Mapping to map physical pens to positions you define.

4. Pick Print Layout.
5. On this tab, you can further refine the scale and orientation of the image on the page, and align it exactly using the graphical preview.
6. When you're satisfied with the settings, pick Save Profile As. Give the profile a meaningful name.



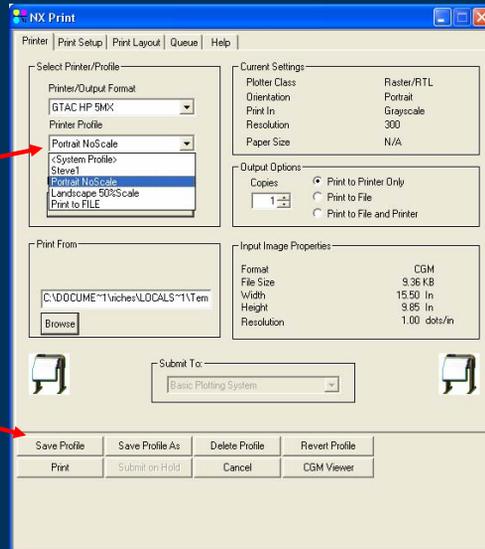
- ▶ Separate SYSTEM profile for each printer
- ▶ Defined in the SDI Printer Administration utility



Notes:



- ▶ You can save multiple **USER** profiles
- ▶ When you PLOT, you can select which profile you want to use...
- ▶ Defined in the NX 'Plot' window
 - ▶ Use "Save Profile As" to copy/update an existing profile



Notes:



Configuring Multiple Printer Groups

Notes:



Features of Printer Groups



- ▶ Printers and plotters can be organized in logical groups
 - ▶ By functional or departmental area
 - ▶ By geographical location
- ▶ “Shorten” the list of available printers and plotters
- ▶ Create a list of your “favorite” printers and plotters



Notes:



1. Use the NX Printer Administration utility to create a new printer group
2. Add printers to your new printer group
3. Create a Printer Group List File
4. Determine what Customer Default Level you want your Printer Group to belong to
 - ▶ Site
 - ▶ Group
 - ▶ User
5. Define the Customer Defaults environment variable, for example "**UGII_SITE_DIR**"
6. Declare the Printer Group List File in the customer default environment

Defining Printers in Multiple Printer Groups

System administrators or individual NX users might prefer to define printers in multiple printer groups. The system administrator might create a printer group to represent printers that are shared by all users at the site. Others might create printer groups for printers used only by users in a particular workgroup at a particular location. An individual NX user might create a printer group to manage printers and printing options that he uses most often.

Accessing Multiple Printer Groups

To access multiple printer groups:

1. Create a printer group list file to identify the printer groups of interest. This is a text-format file that you create and edit with your favorite text-editing program.
2. In the file, specify printer group information in a certain format, and set the Gateway --> Plotting --> General Printer Group List File customer default to identify the path of the file to NX.
3. If you specified a printer group list file, then the File --> Plot dialog presents an option menu of the printer groups so you can choose one.
4. Click the Plot button. The NX Print dialog displays an option menu of the printers defined in the chosen printer group.

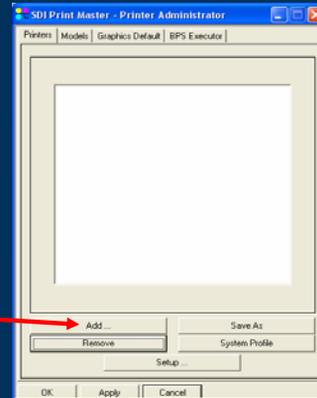
Printer definitions are platform-specific, so if you use both Windows and UNIX workstations, create a printer group with Windows-specific printer definitions and a printer group with UNIX-specific printer definitions.



Create a New Printer Group



1. Click **File->Utilities->Printer Administration**
2. Select the **Create and Edit** radio button.
3. Enter a name to a non-existing directory where the printer group and associated files will be created
 - ▶ Do not put a "space" in the directory name on UNIX platforms
4. Click **OK**.
5. Add printers (as before) to the new printer group
6. Exit out of Unigraphics NX



Notes:



- ▶ The printer group list file is used to display multiple Printer Groups in the **File-> Plot** menu
- ▶ A *template* file, "**printer_group_list_file.txt**" is provided as an example
 - ▶ %UGII_BASE_DIR%\NXPLOT on Windows
 - ▶ \$UGII_BASE_DIR/nxplot on Unix
- ▶ Copy the *template* file to the printer group directory;
 - ▶ C:\NX Printers
 - ▶ /usr/nx_printers
- ▶ Edit the "**printer_group_list_file.txt**" to add printer group entries

To access multiple printer groups, create a printer group list file to specify the printer groups of interest. NX reads this file to display an option menu of printer group directories in the **File->Plot** dialog. A template file named "printer_group_list_file.txt" is included in %UGII_BASE_DIR%\NXPLOT directory. It is recommended that you copy this template file to the printer group directory.

1. Go to Windows Explorer and browse to "C:\Program Files\UGS\NX 3.0\NXPLOT". Copy the file "printer_group_list_file.txt" to "C:\NX Printers" directory. On Unix, copy this file to "/usr/nx_printers" directory
2. Edit the file "C:\NX Printers\printer_group_list_file.txt" to add printer group entries.

! PRINTER GROUP LIST FILE

!

! To access multiple printer groups, you create a "printer group list file" to specify the printer groups of interest. NX reads this file to display an option menu of printer group directories in File-> Utilities->Printer Administration, File->Plot, and Plot Image dialogs.

!

! The printer group list file is a text file (with any suffix) that you can create and edit with your favorite text editor. In the file, you specify printer group information in a certain format, and you set a customer default to identify the file path to NX.

!

! A template version of the printer group list file is provided with NX. The template file contains instructions and samples to explain the file syntax. When creating a printer group list file, you might prefer to copy this template file and add your printer group information to the copied file. The template file is...

!

! %UGII_BASE_DIR%\nxplot\printer_group_list_file.txt (Windows)
! or

! \$UGII_BASE_DIR/nxplot/printer_group_list_file.txt (UNIX)

!

! Printer group list files are platform-specific, so if you use both Windows and UNIX workstations, you will create a Windows-specific printer group list file and a UNIX-specific printer group list file.



Edit the "printer_group_list_file.txt" File



- ▶ The syntax of this file is VERY specific; details are in the file itself
- ▶ The printer_group_list_file is also PLATFORM specific; separate files for Windows and Unix

```
GROUP_DIR C:\NX Printers\Group A
JOBS_DIR c:\temp \Group A
HOME_DIR c:\NX Printers\Group A
LABEL Group A Printers
!
GROUP_DIR C:\NX Printers\Group B
JOBS_DIR c:\temp \Group B
HOME_DIR c:\NX Printers\Group B
LABEL Group B Printers
!
GROUP_DIR C:\NX Printers\Group C
JOBS_DIR c:\temp \Group C
HOME_DIR c:\NX Printers\Group C
LABEL Group C Printers
```

▶ Printer Groups defined above

▶ Printer Group Name displayed in File-> Plot

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The syntax of this file is very specific. Refer to the default template file for a detailed explanation. Printer group list files are platform specific so a printer group list file is needed for both UNIX and Windows platforms in a mixed environment. This example assumes that you have created THREE printer groups, Group A, Group B and Group C.

! The syntax of the printer group list file is based on keywords. That ! is, a keyword at the start of a file line indicates the type of data ! specified on the line. An exclamation point (!) or sharp sign (#) ! at the start of a file line indicates a comment. Every line of the file ! must start with either a keyword, an exclamation point, or a sharp, ! or it may be blank.

!

! In order to access a particular printer group directory, you must add ! four lines to the file in the format indicated by the examples below. ! each group of four lines must be separated by a comment or a blank line. ! The four keywords may appear in any order.

!

! Windows:

!

```
! GROUP_DIR C:\My Printers
! JOBS_DIR ${UGII_TMP_DIR}\bps\My Printers
! HOME_DIR ${HOME}\bps\My Printers
! LABEL My Printers
```

!

! UNIX:

!

```
! GROUP_DIR /users/wilson/wilson_printers
! JOBS_DIR ${UGII_TMP_DIR}\bps/wilson_printers
! HOME_DIR ${HOME}\bps/wilson_printers
! LABEL Bob's Printers
```



- ▶ There are three levels of customer defaults: **Site, Group and User**
- ▶ For our example, we will be using a **SITE** level customer default
- ▶ Create a “startup” directory to store the **customer defaults** file, for example;
 - ▶ C:\NX 3.0\customer_defaults\startup Windows
 - ▶ /usr/nx3.0/customer_defaults/startup Unix
- ▶ Set the system variable “UGII_SITE_DIR” to point to the customer_defaults directory
 - ▶ UGII_SITE_DIR= C:\NX 3.0\customer_defaults
 - ▶ UGII_SITE_DIR= /usr/nx3.0/customer_defaults

Set a variable to define the customer default level. Customer defaults can be controlled at three levels: site, group, and user. For this example, we will be using a site level customer default.

- a) Create a startup directory where you want to store the customer defaults file such as “C:\NX 3.0\customer_defaults\startup”

On Unix systems, you may create the directory “/usr/nx3.0/customer_defaults/startup”

The “startup” directory can be created in the path of your choice.

- b) Set a system variable UGII_SITE_DIR to point to customer defaults. The variable should point to the directory where the “startup” folder was created.

- c) Click **Start-> Control Panel-> System-> Advanced->Environment Variables**

- d) In the System Variables, click **New**

Click **OK** to create the variable.

On Unix systems, this environment variable, **UGII_SITE_DIR**, should be set in the **/etc/profile**, in the appropriate global C shell login script (i.e., **/etc/csh.login** {HP} or **/etc/.login** {Sun}) and, for CDE in **/etc/dt/config/Xsession.d/xsession.ugs** {HP & IBM} or **/usr/dt/config/Xsession.d/xsession.ugs** {Sun}.

For example, at the bottom of the **/etc/profile** file, add the two lines:

```
UGII_SITE_DIR=/usr/nx3.0/customer_defaults
```

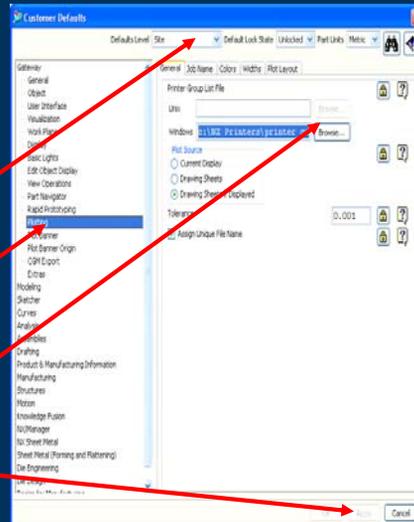
```
export UGII_SITE_DIR
```



Declare the Printer Group File in the Customer Default Environment



- ▶ Start a new session of NX
- ▶ Select, **File-> Utilities-> Customer Defaults**
 - ▶ Select the Default Level as “SITE”
- ▶ Select **Gateway-> Plotting**
- ▶ Browse or enter the complete path to the “printer_group_list_file.txt” file
- ▶ Select **Apply**
- ▶ Restart your NX session



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Declare the printer group file to the customer’s default environment. To do this:

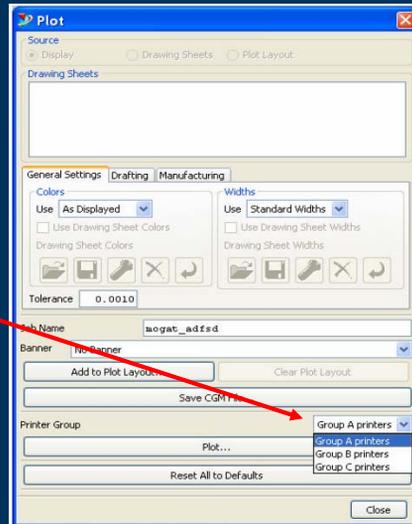
- a) Start NX.
- b) Click **File-> Utilities-> Customer Defaults** to define the printer group file. (Default level should be Site)
- c) From the list on the left, select **Gateway®Plotting**. In the Printer Group List File, browse to “C:\NX Printers\printer_group_list_file.txt ”
- d) Click **Apply**. A site level customer defaults file will be saved as “C:\NX 3.0\customer_defaults\startup\nx3_site.dpv”. The defaults file now has a plotting default set which will point NX to the printer group list file.
- e) Exit out of NX. Changes made to customer defaults will not take effect until your next NX session.



Multiple Printer Groups Defined



- ▶ Start a new Unigraphics NX session
- ▶ Select File-> Plot
- ▶ Your Printer Groups should now appear as a pull-down list



You are now ready to plot in NX.

- a) Start NX, open a file, and select **File-> Plot**.
- b) The NX plotting system should now see the printers defined in the three printer groups you have just defined.

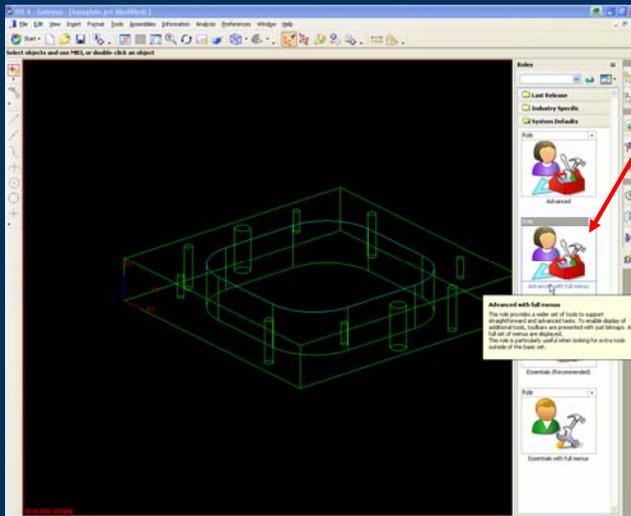


Common Problems/Resolutions

Notes:



Cannot access the Printer Administration utility



- ▶ NX4 uses ROLES to define which menu options are displayed.
- ▶ Select the appropriate ROLE to view the menu
- ▶ You must also have a part file OPEN to access File-> Utilities-> Printer Administration

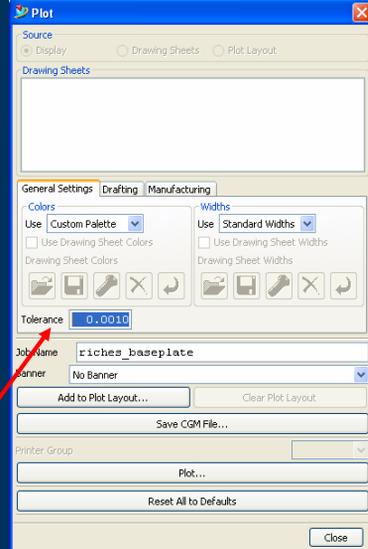
Notes:



More Common Problems



- ▶ **Q: No output from the Printer/Plotter**
 - ▶ A: Verify the graphics language supported by the printer
- ▶ **Q: My output is printing on the wrong paper size**
 - ▶ A: Try using one of the provided Initialization files
- ▶ **Q: My plot contains jagged lines**
 - ▶ A: For smoother lines, adjust the 'Tolerance' in the File-> Plot window



Notes:



Environment Variables Used by the NX Plotting



- ▶ **UGII_SDI_SERVER_CFG_DIR**
 - ▶ Set environment variable UGII_SDI_SERVER_CFG_DIR to the path of the single printer group directory
- ▶ **UGII_SDI_BPS_JOBS_DIR**
 - ▶ The path of a 'jobs' directory that stores files for individual plot jobs processed for this printer group.
- ▶ **UGII_SDI_OVERRIDE_HOME**
 - ▶ The path of a home directory that stores user profiles for this printer group. Because user-specific files are created in this directory, you will probably prefer to create this directory under the user's home directory.

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The NX plotting system uses environment variables to configure the commercial printing software that is integrated with the system. Most of these environment variables specify directories where the software reads or writes plotting-related files.

Key environment variables identify the directories associated with the current printer group. If a printer group list file exists, then NX sets these environment variables automatically according to printer group specifications in the list file.

If all users share a single printer group, however, then the system administrator must explicitly set the environment variables to identify the printer group directory and associated directories. The environment variables are shown in the default `ugii_env.dat` (Windows) or `.ugii_env` (UNIX) file.

UGII_SDI_SERVER_CFG_DIR

Set environment variable UGII_SDI_SERVER_CFG_DIR to the path of the single printer group directory.

If you do not set UGII_SDI_SERVER_CFG_DIR, however, NX uses `${UGII_BASE_DIR}/nxplot/config/pm_server`, which is the "system default" printer group. No printers are defined in this empty printer group, so if it is used, you will be unable to direct plots to an actual printer device. You can use the default printer group only to convert plot files from CGM to some alternate format (EMF, JPEG, PNG, TIFF).

UGII_SDI_BPS_JOBS_DIR

You can optionally set environment variable UGII_SDI_BPS_JOBS_DIR to the path of a jobs directory that stores files for individual plot jobs processed for this printer group. Because the files created in this directory are usually short lived, you will probably prefer to create this directory under a directory generally used for temporary files.

If you do not set UGII_SDI_BPS_JOBS_DIR NX defaults to `${UGII_TEMP_DIR}/bps`.

You can find all files for a particular plot job in a subdirectory of `${SDI_BPS_JOBS_DIR}/user_name/node_name`, where `user_name` represents the user account name, and `node_name` represents the workstation node name.

UGII_SDI_OVERRIDE_HOME

You can optionally set environment variable UGII_SDI_OVERRIDE_HOME to the path of a home directory that stores user profiles for this printer group. Because user-specific files are created in this directory, you will probably prefer to create this directory under the user's home directory.

If you do not set UGII_SDI_OVERRIDE_HOME, NX uses the user's home directory (`${HOME}`).

You can find the user-specific files in the `pm_server` subdirectory of the home directory.



Glossary of Terms



Abstract files	Graphic files which have no embedded scale factor or real world dimensions
Adobe PostScript	PostScript, like CGM, is a Vector Image made up of geometric objects rather than raster (bitmap) data. These images come into their own when scaling is an issue
ANSI	American National Standards Institute
Aspect Ratio	The ratio between the x-axis and y-axis
CCRF	Calcomp Compressed Raster Format
CGM	Computer Graphic Metafile is a file format designed by several standards organizations and formally ratified by ANSI.
CLI	Command Line Interface - Method of using SDI_PrintMaster using only command line instructions allowing scripts to be used to automate tasks
CMYK	Cyan, Magenta, Yellow and Black make up the 4 colors of a 4 color pass plotter.
Dither Pattern	Creating the illusion of new colors and shades by varying the pattern of dots
EMF	Windows Enhanced Metafile
Error Diffusion	A randomized dithering methodology designed to create smooth color blending without the repetitive effects of regular dither patterns.
Gamma Correction	A method by which color intensity can be altered. Can be applied to any of the four primary colors used in plotting - Cyan, Magenta, Yellow and Black.

HPGL	Hewlett-Packard Graphics Language
HP-RTL	Hewlett-Packard Raster Transfer Language
SDI_Admin	Print Administration tool allowing configuration of SDI plot servers
JPEG	Joint Picture Expert Group
LP	Line Printer (command line argument to submit jobs to a pre-defined print queue)
LPR	Line Print Request (command line argument to submit jobs to a pre-defined print queue)
Metric files	An image file containing information specific to physical dimensions
PNG	Portable Network Graphic
Ports (Listening)	A socket connection between two computers on a network.
Print Engine	The main Raster Image Processing module which is accessed by the Graphical User Interface (GUI) and the Command Line Interface (CLI)
RIP	Raster Image Processor
SDI	System Development Inc. - Developer of High Performance Graphic Software.
TIFF	Tagged Information File Format
VDS	Versatec Block Raster Format

Notes:



Review and Questions

UGS Corporation
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