

Pirana

The flexible modeling environment for NONMEM



Quick Guide: Making VPC's with PsN and Xpose

Version 1.1

Scope

This Pirana Quick Guide explains how to use Pirana to generate VPC data using PsN, and how to subsequently use that data to create VPC plots with Xpose using different plotting options.

Generating data for the VPC

- Select the model for which a VPC should be created, and select the option VPC via the menu below your right-mouse button (PsN → Model evaluation → vpc) (Figure 1).

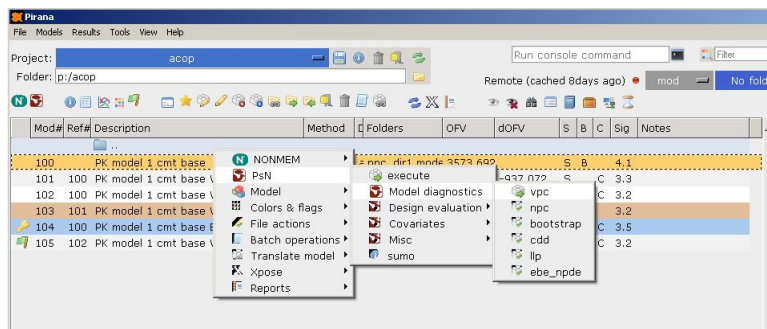


Figure 1: Selecting a run and executing the PsN/VPC Toolkit run window

- In the resulting PsN settings window, the command for running creating the vpc can be specified (Figure 2). The vpc command takes many arguments which alters the way the vpc is calculated, e.g. you can specify stratifications, binning, dependent variable etc.

- Arguments may be added in the text box at the lower part of the PsN run window (orange square).
- A full overview of possible arguments and their use may be viewed in the upper part of the PsN run window. By clicking on 'Help', additional help on these arguments is available (small blue square).
- When all arguments for the VPC dataset have been defined correctly, the PsN/vpc run may be executed (green square).

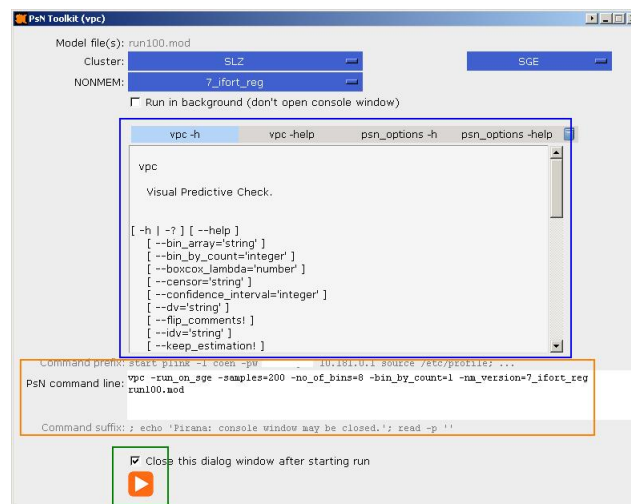


Figure 2: PsN/vpc Toolkit run window

- If the VPC run is not executed in the background, a run window will appear similar to Figure Figure 3. Make sure to check if no errors are reported in this step. If the vpc finishes correctly, it will report something like 'Done reading and formatting data, finishing run.'

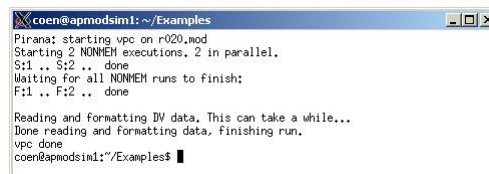


Figure 3: Output after execution of VPC run using PsN

Plotting the VPC data

- If the VPC was run successfully, a new folder will be created which is named `npc_dirX`, at least if you did not specify another folder name manually (Figure 3, blue square).
- If you don't see the folder yet in Pirana, press the folder refresh button (round green/white button). Also make sure that the folder filter is set to **PsN folders** or **All folders** (Figure 3, orange square).
- Note that if you run the `vpc` command multiple times, multiple `npc_dir` folders will be created. It is therefore advisable to use the `'-dir'` option in PsN to specify a specific folder each time you run a vpc.



Figure 4: VPC run folder created after execution of VPC run

- Select the model for which the VPC was executed. (Figure 5).
- Select Xpose → Run Xpose commands. This will open up the Pirana Xpose interface.

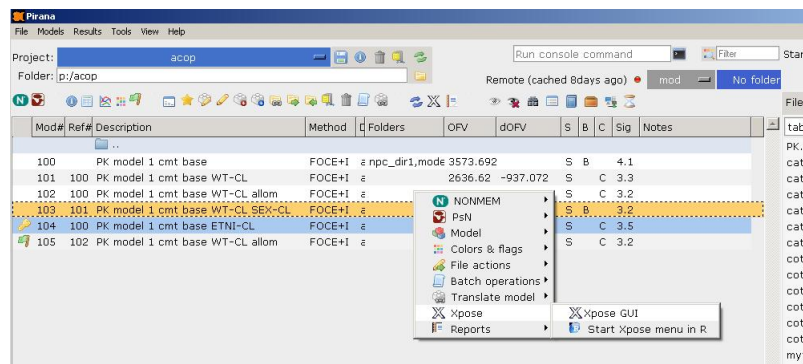


Figure 5: Starting the 'Run Xpose commands' window on selected run.

- Enter or select `xpose.VPC` in the command text field (Figure 6, blue square). If any other commands are present in the list, remove these.
- Next, arguments for the `Xpose.VPC` may be added (Figure 6, orange square). The `xpose.VPC` help files may be accessed using the help button.

- Several options are available for the output format. The easiest option is to automatically generate the graph and save as PDF (default) or PNG file (Figure 6, red square).
- Alternative output formats are to generate the R-code only and open it in your R interface, or to generate Sweave code for LaTeX documents.
- If all settings have been configured, the VPC may be generated by pressing the execute button (Figure 6, green square).
- If output was directed to a PDF or PNG file, this file will be automatically opened by the PDF viewer you specified in Pirana's settings. (Figure 7). If you choose to generate R or LaTeX code, Pirana will open the R GUI or your code editor, and you will have to run the generated code manually.

Tweaking the VPC plot

These VPCs may be further optimized by adjusting the many Xpose arguments. Please check out the xpose VPC help files (which may be accessed from the Run Xpose command window, or go to the Xpose website for more information).

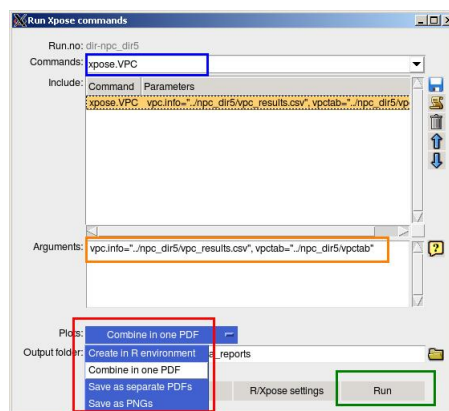


Figure 6: The 'Run Xpose commands' window to generate the VPC graph

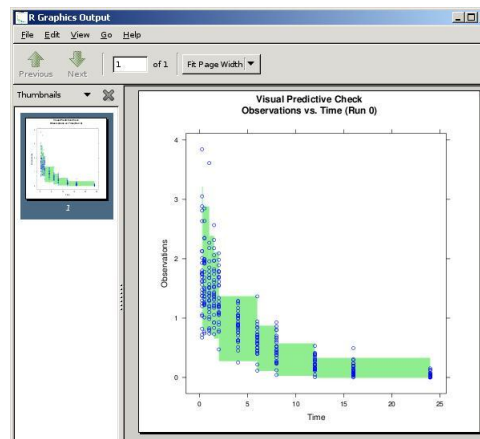


Figure 7: VPC obtained through PsN and Xpose