Piraña: open-source modeling environment for NONMEM

Ron J Keizer1,2, JG Coen van Hasselt1,2, Alwin DR Huitema1,2

1 Department of Pharmacy & Pharmacology, the Netherlands Cancer Institute / Sloterwaard Hospital, Amsterdam, NL
2 Division of Clinical Pharmacology, The Netherlands Cancer Institute, Amsterdam, NL

What is Piraña?

• Complete modeling environment for NONMEM
• Graphical user interface for PsN
• Model manager
• Output manager (plots, run records, etc)
• Interface for clusters (SGE, MOSIX), or stand-alone

Why use Piraña?

• Streamline modeling workflow, intuitive interface.
• Compatible with NM7
• Highly customizable, e.g. use custom R scripts
• Open source, free
• Runs on Windows, Linux, Mac OSX

Model management

• Logbook-like interface for model management: add descriptions, notes, and coloring to models and results. Choose between condensed / detailed model information, and list / tree views.
• Create and edit models: Create new models from templates, duplicate model with updated run- and table numbers and parameter estimates. Delete model files and all associated results and table files.

Clusters

• Computer clusters running NONMEM can be accessed directly through SSH, both from/to Linux and Windows systems. (SGE / MOSIX)
• Piraña can be installed on the cluster server, and run by multiple clients through SSH X-window tunneling [1]
• Simple cluster set-up under Windows networks [2]: PCluster, allows the construction of a simple cluster using dedicated or non-dedicated PCs.

Output management

• Create HTML / LaTeX run reports: Quickly create formatted reports, containing model information and estimations results for all estimation methods that were used, including parameter estimates, uncertainty, shrinkage etc. Piraña is compatible with output from NONMEM version 5, 6 and 7
• Create Run records: csv-files with run info
• Extend Piraña with custom R-scripts
• Computer networks [2]: graphical
• Complete modeling environment for NONMEM

Piraña documentation and downloads are available from http://pirana.sf.net. Contact: ronkeizer@gmail.com

References

1. van Hasselt et al. PAGE 2010; abstract 1721
2. Keizer et al. PAGE 2008; abstract 1237