

Xdrone: Parallel Batch Runs of Agent-Based Models...For the Rest of Us

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Xgrid, a recent technology initiative from Apple, enables researchers to easily group networked Mac OS X computers into a parallel computational grid. Xdrone, a plug-in for Xgrid, brings this technology to batch runs of agent-based models. With Xdrone, you can easily harness any network of Macs to explore your model's parameter space—even, for example, an ad-hoc wireless network in a presentation room. Once you set up parameters and begin the batch, runs are automatically assigned to computers on the grid as they become available.

Xdrone is modeled after Ted Belding's Drone tool in both name and design, and models designed for Drone will work with Xdrone unmodified. In addition to support for text configuration files, Xdrone provides a straightforward graphical interface for setting model parameters and performing batch runs. Xdrone can collect data to a local hard disk or to a network directory. Furthermore, if you add one additional command-line option to your model program, Xdrone can query the program to detect what parameters are available and modify the user interface accordingly.

Xdrone makes one aspect of agent-based modeling a little easier to manage. By itself, this is unremarkable—performing batch runs is hardly the most difficult part of ABM. Still, the wider trend toward easier design, implementation, and management of agent-based models is an important one. Alongside many other developments, improved ease of use will help promote ABM's wider acceptance.