

Simulator - Dynamips / Dynagen

Dynamips is a Cisco router emulator written by Christophe Fillot. It emulates 1700, 2600, 3600, 3700, and 7200 hardware platforms, and runs standard IOS images. In Chris' own words:

This kind of emulator would be useful to:

- Be used as a training platform, with software used in real world. It would allow people to become more familiar with Cisco devices, Cisco being the world leader in networking technologies ;
- Test and experiment features of Cisco IOS ;
- Check quickly configurations to be deployed later on real routers.

Of course, this emulator cannot replace a real router, it is simply a complementary tool to real labs for administrators of Cisco networks or people wanting to pass their CCNA/CCNP/CCIE exams. Although Dynamips provides a simple virtual switch, it does not emulate Catalyst switches (although it does emulate the NM-16ESW).

Dynagen is a text-based front end for Dynamips, which uses the 'Hypervisor' mode for communication with Dynamips. Dynagen simplifies building and working with virtual networks:

- Uses a simple, easy to understand configuration file for specifying virtual router hardware configurations
- Simple syntax for interconnecting routers, bridges, frame-relay and ATM, and Ethernet switches. No need to deal with NetIOs
- Can work in a client / server mode, with Dynagen running on your workstation communicating with Dynamips running on a back-end server. Dynagen can also control multiple Dynamips servers simultaneously for distributing large virtual networks across several machines. Or you can run Dynamips and Dynagen on the same system
- Provides a management CLI for listing devices, starting, stopping, reloading, suspending, resuming, and connecting to the consoles of virtual routers.

Dynagen is written in Python, and is therefore compatible with any platform for which there is a Python interpreter (which is to say, many). The design is modular, with a separate OOP API for interfacing with Dynamips. Other Python applications could be written that use this API for programmatically provisioning virtual networks, or to provide other front-ends. For example, a team is working on GNS-3; a GUI front-end using this library.

If somehow you have stumbled upon this tutorial without first finding the Dynamips or Dynagen web sites, here they are along with some other important links:

Dynamips (the actual emulator): http://www.ipflow.utc.fr/index.php/Cisco_7200_Simulator

Dynamips Blog (where most of the action is): <http://www.ipflow.utc.fr/blog/>

Dynagen (a front-end to the emulator): <http://dyna-gen.sourceforge.net/>

GNS-3 (a graphical network simulator that uses Dynagen's libraries): <http://www.gns3.net/>

Dynamips / Dynagen Bug tracking: <http://www.ipflow.utc.fr/bts/>

Hacki's Dynamips / Dynagen / Dynagui Forum: <http://7200emu.hacki.at/index.php>

Special thanks to the creators of the ConfigObj library at <http://www.voidspace.org.uk/python/modules.shtml#configobj>. This library is used by Dynagen for reading its configuration files.

Don't ask me "where to download?" "How to install?" and "How to use?", you can find all answers of this questions in [here](#). And if you have any doubt after study this sites, you can [contact me](#).