



Nebula & Gush



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The Challenge: To create a user-friendly interface for helping users design, run, and visualize distributed programs.

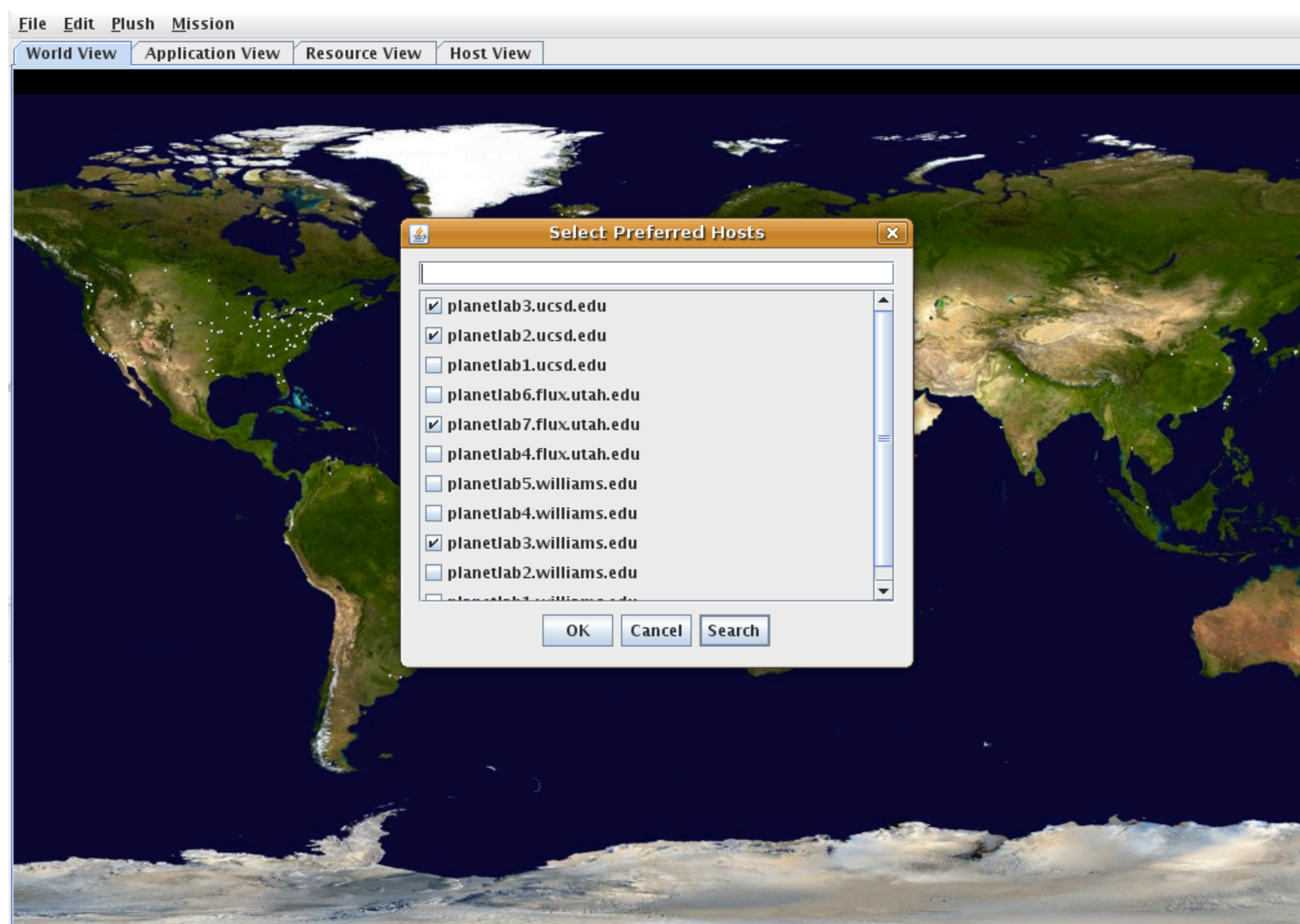
I. PlanetLab

PlanetLab is a global network that enables users to connect to Linux machines around the world for the purpose of running and testing distributed programs.

II. Nebula & Gush

Gush is a non-graphical tool for managing distributed programs. Nebula is a graphical user interface (GUI) for Gush that allows users to run and visualize their experiments. Nebula simplifies tasks associated with deploying and debugging distributed programs.

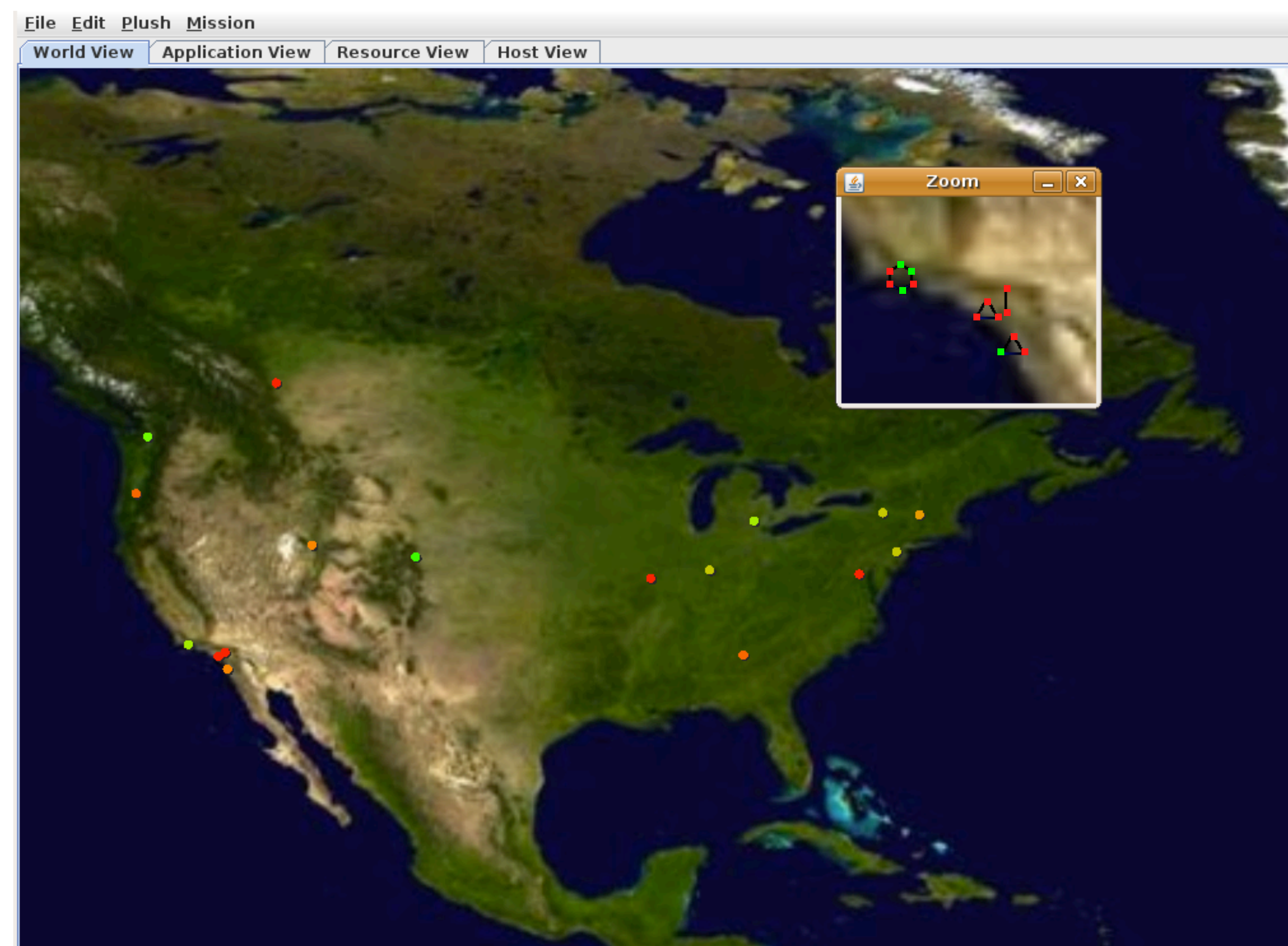
III. Prefer Hosts



The “search and prefer hosts” dialog in Nebula allows users to search for specific PlanetLab machines and select them as “preferred” hosts. When Gush selects hosts to run the user’s program, it automatically chooses the hosts with the highest preferences. Users can also now save and load their host preference sets which allows for easier experiment repeatability.

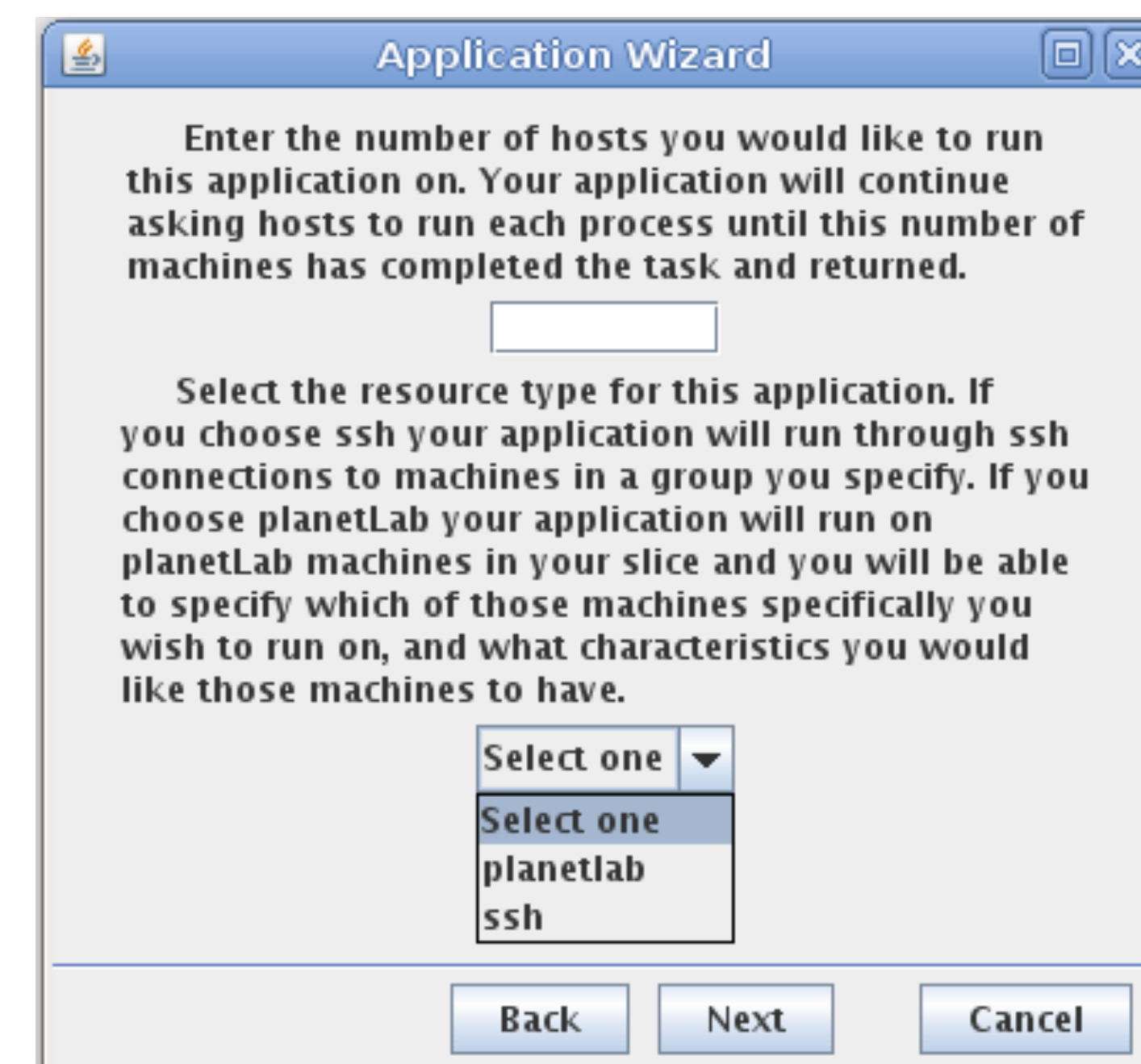
IV. View Metric: Prefer Hosts

Once users have preferred hosts, they can view sites in the Map View tab colored according to preference values. They can also zoom in to view specific hosts at each PlanetLab site colored by their preference values.

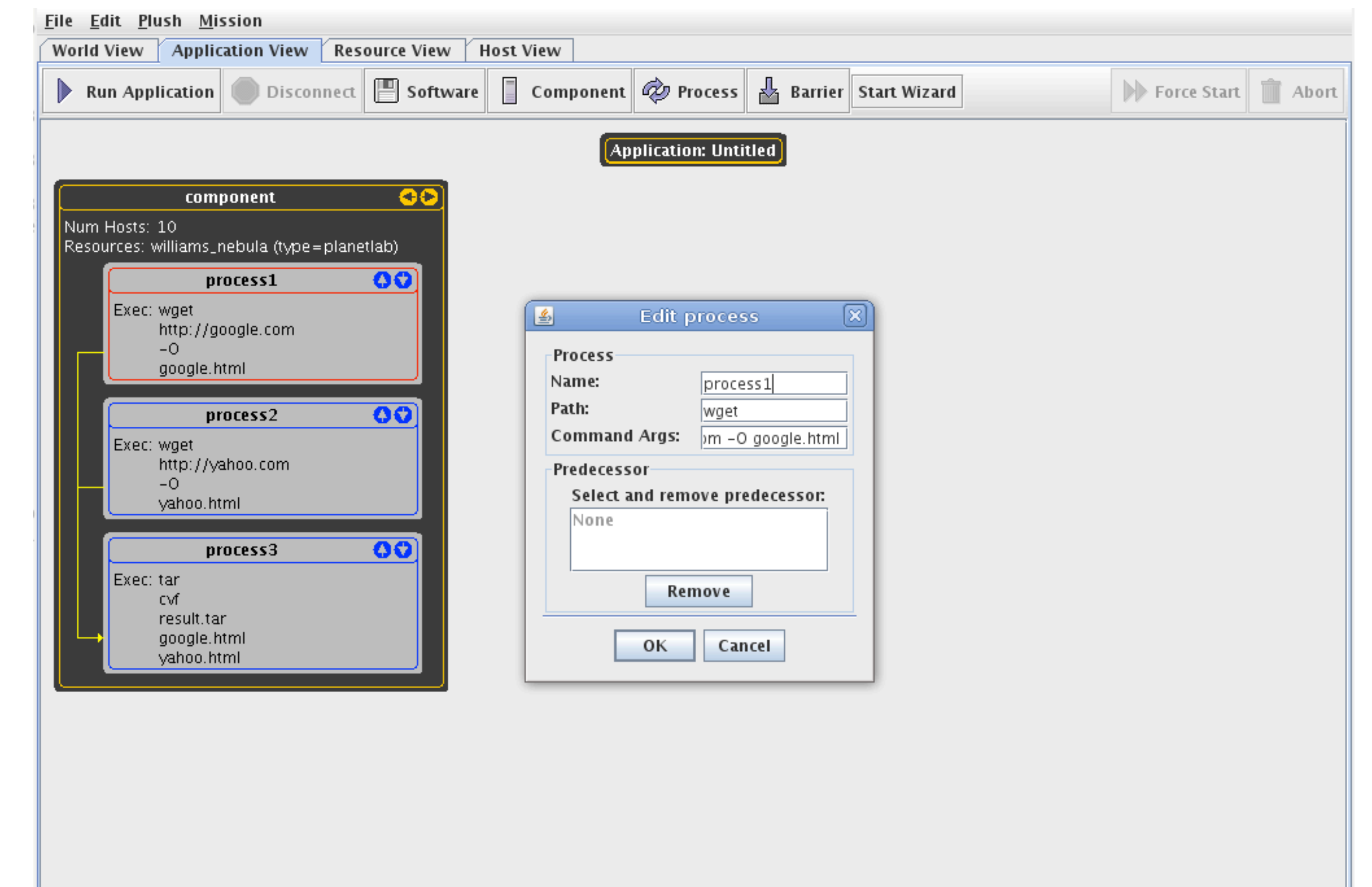


V. Component Wizard

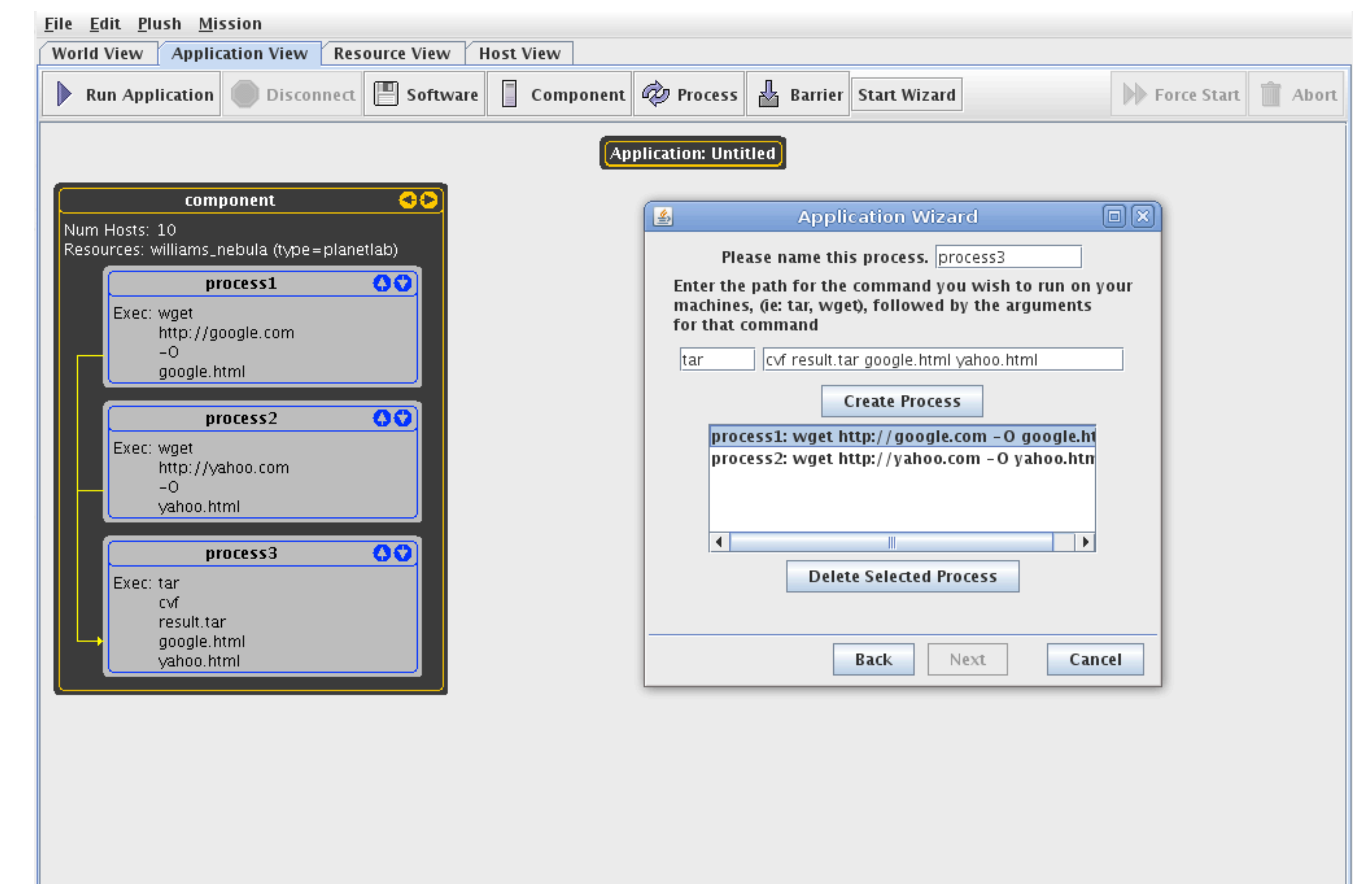
The Component Wizard simplifies the process of building distributed programs even further than the Application View tab. The Wizard walks the user through each step of building an application, allowing them to understand and construct the distributed application as a whole.



The old method of adding each process individually.



Using the Wizard to add all of the processes at once.



VI. Next Steps

- Make the Host View tab more readable and intuitive.
- Improve the Map View by allowing the user to view the displayed hosts in text form as well as graphically.
- Update Resource View tab to help users understand how and where their program is running.

For more information visit <http://plush.cs.williams.edu/nebula/> and <http://gush.cs.williams.edu>.