JET PROPULSION LABORATORY INTEROFFICE MEMORANDUM
SFB: 366-91-6
August 16, 1991

TO: Time Warp Group

FROM: Steve Bellenot

SUBJECT: Status of the Node Activity Tool

The current node activity tool is called xruntime and it is located in /usr/local/src/node-act. The program is currently compiled for a Sun3 and requires a color monitor running x-windows to work correctly. The command "xruntime" will show the percentages of the activities overhead time (in red), object time (in green) and idle time (in blue) for each node at each GVT click. The file QLOG contains the data being displayed. (QLOG is currently a soft link to warpnet/qlog.32.r.1 a 32 node warpnet run, it takes about 4 minutes to completely display this QLOG. Similar files for pucks, stb88 and warpnet are in compressed tar files in the subdirectories.)

It is clear that this program does not run fast enough to monitor runtime activity on an every node basis. (The speed of the x-window server could be the bottleneck.) The are two other problems with glueing xruntime with a running Time Warp simulation. First since the Butterfly does not support shared libraries and x-windows code is huge the executable size of a TWOS simulation roughly doubles. A public domain dynamic link/loader called "dld" would likely solve this problem, but time was not available to check. The second problem was forking off the xruntime program on its separate node in TWOS crashed somewhere in the x-initialization code. The x-libraries on the Butterfly seem flaky, for example xruntime would crash if compiled with the optimizer switch on, it worked fine with the debugging switch on. Since the source to x-windows is available this too is a solvable problem given enough time. (The code which keeps track of the idle times and object times has not been moved into the main TWOS source code.)