

Translations of this page**Free Software is More Reliable!**

Apologists for proprietary software like to say, "free software is a nice dream, but we all know that only the proprietary system can produce reliable products. A bunch of hackers just can't do this."

Empirical evidence disagrees, however; scientific tests, described below, have found GNU software to be *more* reliable than comparable proprietary software.

This should not be a surprise; there are good reasons for the high reliability of GNU software, good reasons to expect free software will often (though not always) have high reliability.

GNU Utilities Safer!

Barton P. Miller and his colleagues tested the reliability of Unix utility programs in 1990 and 1995. Each time, GNU's utilities came out considerably ahead. They tested seven commercial Unix systems as well as GNU. By subjecting them to a random input stream, they could "crash (with core dump) or hang (infinite loop) over 40% (in the worst case) of the basic utility programs..."

These researchers found that the commercial Unix systems had a failure rate that ranged from 15% to 43%. In contrast, the failure rate for GNU was only 7%.

Miller also said that, "the three commercial systems that we compared in both 1990 and 1995 noticeably improved in reliability, but still had significant rates of failure (the basic utilities from GNU/Linux still were noticeably better than those of the commercial systems)."

For details, see their paper: *Fuzz Revisited: A Re-examination of the Reliability of Unix Utilities and Services* (postscript 146k) by Barton P. Miller <bart@cs.wisc.edu>, David Koski, Cjin Pheow Lee, Vivekananda Maganty, Ravi Murthy, Ajitkumar Natarajan, and Jeff Steidl.

Why Free Software is More Reliable

It is no fluke that the GNU utilities are so reliable. There are good reasons why free software tends to be of high quality.

One reason is that free software gets the whole community involved in working together to fix problems. Users not only report bugs, they even fix bugs and send in fixes. Users work together, conversing by email, to get to the bottom of a problem and make the software work trouble-free.

Another is that developers really care about reliability. Free software packages do not always compete commercially, but they still compete for a good reputation, and a program which is unsatisfactory will not achieve the popularity that developers hope for. What's more, an author who makes the source code available for all to see puts his reputation on the line, and had better make the software clean and clear, on pain of the community's disapproval.

Cancer Clinic Relies on Free Software!

The Roger Maris Cancer Center in Fargo, North Dakota (the same Fargo which was recently the scene of a movie and a flood) uses Linux-based GNU systems precisely because reliability is essential. A network of GNU/Linux machines runs the information system, coordinates drug therapies, and performs many other functions. This network needs to be available to the Center's staff at a moment's notice.

According to Dr. G.W. Wettstein <greg@wind.rmcc.com>:

The proper care of our cancer patients would not be what it is today without [GNU/]Linux ... The tools that we have been able to deploy from free software channels have enabled us to write and develop innovative applications which ... do not exist through commercial avenues.

Bulletproof GNU Utilities!

Scott Maxwell <s-max@pacbell.net> is leading an effort to eliminate "fuzz bugs" from GNU software, thus making them even more reliable. You can read about the project on <http://home.pacbell.net/s-max/scott/bulletproof->

[penguin.html](#).

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