Server Report

Michigan Tech Linux/UNIX Users Group

January 2012

1 Existing services

We currently provide a number of services to both our members and the general public.

1.1 Public services

Our most visible public service is the mirrors of free (open source) software, mostly Linux distributions. The mirror infrastructure for free software projects is a very important part of the system, allowing volunteers such as this organization to provide distribution resources to deliver source code and binaries to users. Without the contribution of volunteers such as LUG, many open source projects would have difficulty serving their global user communities, since they lack the centralized capacity to handle many users.

Most notably, we provide a mirror site for

• Ubuntu Linux

• Arch Linux

• Ultimate Boot CD

• Gentoo Linux

• Debian GNU/Linux

• Fedora

Most days see around 2000 unique users (identified by IP address), and this figure has been steadily rising since we began generating mirror usage statistics about one year ago. Some days (particularly when new versions of Ubuntu are released) see over twice that many requests, and completely saturate our Internet uplink for extended periods of time to serve the large number of people requesting files from us. Some other local organizations also use our mirrors, such as REMC using us as a source for CentOS, and the Linux labs on campus could (but do not currently) use us as the primary mirror for Fedora.

In addition to the mirror service, we operate a Tor relay node on one of our servers. The Tor project provides an anonymous routing infrastructure over common internet links, allowing anybody anywhere in the world to route their internet traffic in an anonymous fashion, which is of particular utility to people living in certain jurisdictions where Internet access is tightly controlled. The Tor network is operated by volunteers in the same fashion as the mirror networks we are a part of (discussed above), but requires larger amounts of computing resources.

While the free software we serve from our mirrors is effectively streamed from a hard disk and on to the network (and so is largely limited by the speed of our network connection), the role of a Tor relay involves a significant amount of cryptographic activity. All data travelling on the Tor network is processed with cryptographic ciphers at each routing hop, which requires a significant amount of processor time. The Tor relay software on our main frontend system is usually the single process using the most resources on the entire system.

We are one of the servers for the USLUG IRC network, which is an IRC network primarily intended for LUGs in the United States. Membership is low, but we are currently linked with a server operated by one

of our alumni and a server operated by the LUG at Northern Michigan University. While use by people outside of those two groups is small, the IRC network provides a convenient medium for our members to mingle and chat with each other and those outside of the university, such as alumni of our organization.

In addition to the three major public services we run, there are a small number of mostly-unused services, including a Jabber (XMPP) server.

1.2 Member services

Most of the services we provide are open to the public, but a few of the things running on our servers are provided only for members of the group, in most cases because it would require inordinate amounts of resources to provide similar service to the general public.

Most obvious of the members-only services we provide is a shell server, available for whatever use its users may find for it (as long as said uses are acceptable under the university's computer use policy). It offers a convenient always-on system with a fast network connection and rather large amounts of storage space. Many of our members use this service in order to maintain an always-on presence on IRC (both our network and external networks), although we place no particular limitations on what can be done with the computing resources- it is limited only by the ingenuity of its users.

2 Future expansion

Since we recently relocated our servers out of the CEC and into a new location with better network connectivity, we have been looking into possible ways we can increase the ways we serve our members, the university community, and the general public.

At our recent group meetings, some members have proposed setting up a project management system for our members. This would provide a convenient place for our members to publicize their various projects and drive additional traffic to the organization.

In addition to providing project hosting for just our members, the local FIRST Robotics Competition teams have expressed interest in using such a service to host information related to their competition work. For these groups, we can provide a convenient and zero-cost solution.

We were recently approached by a member of the university staff who wishes to set up an open access information repository for their own work and that of their collaborators, with potential of expanding to a much wider deployment. This agrees with our general mission of open-source software evangelism, since it gives us a chance to support users within the university in evaluating the utility of open-source software for a given purpose.