MUUGLines

The Manitoba UNIX User Group Newsletter

Next Meeting:
March 10th, 2009, 7:30pm

MySQL Replication

Replication is a feature of **MySQL** that allows you to configure a MySQL daemon to be a "slave" that retrieves and executes logged changes from another MySQL daemon ("master"). Mark Jenkins of ParIT Worker Co-operative (**parit.ca**) will give an overview of the feature, discuss configuration and security, and demonstrate three key applications of replication:

1. Near-realtime offsite/offsystem backup, with point-in-time recovery

2. Failover – having a MySQL slave server take over and provide equivalent service when a master fails

3. Load balancing – one MySQL master server handles all writes, many slave MySQL servers handle read operations. This fits the workload profile of most dynamic websites. (e.g. Wikipedia)
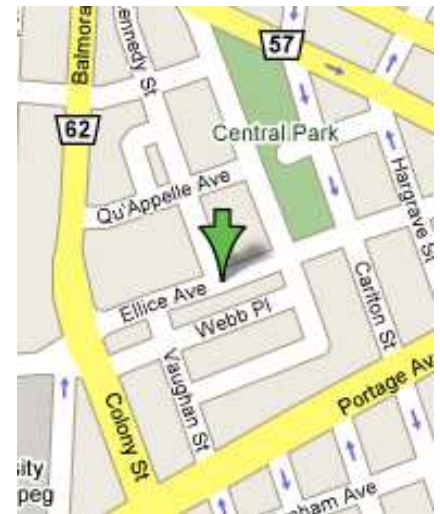
Where to find the Meeting

Meetings are held at the IBM offices at 400 Ellice Ave. (between Edmonton and Kennedy). When you arrive, you will have to sign in at the reception desk, and then wait for someone to take you (in groups) to the meeting room. Please try to arrive by about 7:15pm, so the meeting can start promptly at 7:30pm. Don't be late, or you may not get in. (But don't come too early either, since security may not be there to let you in before 7:15 or so.) Non-members are welcome, but may be required to show photo ID at the security desk.

Limited parking is available for free on the street, either on Ellice Ave. or on some of the intersecting streets. Indoor parking is also available nearby, at Portage Place, for $3.00 for the evening. Bicycle parking is available in a bike rack under video surveillance located behind the building on Webb Place.

Favourite Linux Distributions

What are the most popular Linux distributions? How can you tell them apart? How is each different from the others? One source of much information is the site: **http://distrowatch.com**

Here is some information presented there about some of the most popular distributions. There is much more to be seen there. Consider this an appetizer.

Ubuntu

The launch of **Ubuntu** was first announced in September 2004. Although a relative newcomer to the Linux distribution scene, the project took off like no other before, with its mailing lists soon filled in with discussions by eager users and enthusiastic developers. In the few years that followed, Ubuntu has grown to become the most popular desktop Linux distribution and has greatly contributed towards developing an easy-to-use and free desktop operating system that can compete well with any proprietary ones available on the market.

What was the reason for Ubuntu's stunning success? Firstly, the project was created by Mark Shuttleworth, a charismatic South African multimillionaire, a former Debian developer and the world's second space tourist, whose company, the Isle of Man-based Canonical Ltd, is currently financing the project. Secondly, Ubuntu had learnt from the mistakes of other similar projects and avoided them from the start - it created an excellent web-based infrastructure with a Wiki-style documentation, creative bug-reporting facility, and professional approach to the end users. And thirdly, thanks to its wealthy founder, Ubuntu has been able to ship free CDs to all interested users, thus contributing to the rapid spread of the distribution.

- **Pros:** Fixed release cycle and support period; novice-friendly; wealth of documentation, both official and user-contributed
- **Cons:** Some of Ubuntu's own software (e.g. Launchpad, Rosetta) are proprietary; lacks compatibility with Debian

SUSE

The beginnings of **openSUSE** date back to 1992 when four German Linux enthusiasts -- Roland Dyroff, Thomas Fehr, Hubert Mantel and Burchard Steinbild -- launched the project under the name of SuSE (Software und System Entwicklung) Linux. In the early days, the young company sold sets of floppy disks containing a German edition of Slackware Linux, but it wasn't long before SuSE Linux became an independent distribution with the launch of version 4.2 in May 1996. In the following years, the developers adopted the RPM package management format and introduced YaST, an easy-to-use graphical system administration tool. Frequent releases, excellent printed documentation, and easy availability of SuSE Linux in stores across Europe and North America resulted in growing popularity of the distribution.

SuSE Linux was acquired by Novell, Inc. in late 2003. Major changes in the development, licensing and availability of SUSE Linux followed shortly afterwards - YaST was released under the General Public License, the ISO images were freely distributed from public download servers, and, most significantly, the development of the distribution was opened to public participation for the first time. Since the launch of the openSUSE project and the release of version 10.0 in October 2005, the distribution became completely free in both senses of the word. The openSUSE code has become a base system for Novell's commercial products, first named as Novell Linux, but later renamed to SUSE Linux Enterprise Desktop and SUSE Linux Enterprise Server.

- **Pros:** Comprehensive and intuitive configuration tool; large repository of software packages, excellent web site infrastructure and printed documentation
- **Cons:** Novell's patent deal with Microsoft in November 2006 seemingly legitimised Microsoft's intellectual property claims over Linux; its resource-heavy desktop setup and graphical utilities are sometimes seen as "bloated and slow"

Fedora

Although **Fedora** was formally unveiled only in September 2004, its origins effectively date back to 1995 when it was launched by two Linux visionaries -- Bob Young and Marc Ewing -- under the name of Red Hat Linux. The company's first product, Red Hat Linux 1.0 "Mother's Day", was released in the same year and was quickly followed by several bug-fix updates. In 1997, Red Hat introduced its revolutionary RPM package management system with dependency resolution and other advanced features which greatly contributed to the distribution's rapid

rise in popularity and its overtaking of Slackware Linux as the most widely-used Linux distribution in the world. In later years, Red Hat standardised on a regular, 6-month release schedule.

- **Pros:** Highly innovative; outstanding security features; large number of supported packages; strict adherence to the Free Software philosophy
- **Cons:** Fedora's priorities tend to lean towards enterprise features, rather than desktop usability

Debian

Debian GNU/Linux was first announced in 1993. Its founder, Ian Murdock, envisaged the creation of a completely non-commercial project developed by hundreds of volunteer developers in their spare time. With sceptics far outnumbering optimists at the time, it was destined to disintegrate and collapse, but the reality was very different. Debian not only survived, it thrived and, in less than a decade, it became the largest Linux distribution and possibly the largest collaborative software project ever created!

- **Pros:** Very stable; remarkable quality control; includes over 20,000 software packages; supports more processor architectures than any other Linux distribution
- **Cons:** Conservative - due to its support for many processor architectures, newest technologies are not always included; slow release cycle (one stable release every 1 - 3 years); discussions on developer mailing lists and blogs can be uncultured at times

Mandriva

Mandriva Linux was launched by Gaël Duval in July 1998 under the name of Mandrake Linux. At first, it was just a re-mastered edition of Red Hat Linux with the more user-friendly KDE desktop, but the subsequent releases also added various user-friendly touches, such as a new installer, improved hardware detection, and intuitive disk partitioning utility. As a result of these enhancements, Mandrake Linux flourished. After attracting venture capital and turning into a business, the fortunes of the newly established MandrakeSoft fluctuated widely between a near bankruptcy in early 2003 to a flurry of acquisitions in

2005. The latter, after merging with Brazil's Conectiva, saw the company change its name to Mandriva.

- **Pros:** Beginner-friendly, especially the commercial edition; excellent central configuration utility; very good out-of-the-box support for dozens of languages; installable live CD
- **Cons:** Lacks a comprehensive marketing strategy to compete with other major distributions, non-existent Mandriva books show lack of "mindshare" among publishing houses.

Slackware

Slackware Linux, created by Patrick Volkerding in 1992, is the oldest surviving Linux distribution. Forked from the now-discontinued SLS project, Slackware 1.0 came on 24 floppy disks and was built on top of Linux kernel version 0.99pl11-alpha. It quickly became the most popular Linux distribution, with some estimates putting its market share to as much as 80% of all Linux installations in 1995. Its popularity decreased dramatically with the arrival of Red Hat Linux and other, more user-friendly distributions, but Slackware Linux still remains a much-appreciated operating system among the more technically-oriented system administrators and desktop users.

- **Pros:** Highly stable, clean and bug-free, strong adherence to UNIX principles
- **Cons:** Limited number of officially supported applications; conservative in terms of base package selection; complex upgrade procedure; no official 64-bit edition

Gentoo

The concept of **Gentoo** Linux was devised in around the year 2000 by Daniel Robbins, a former Stampede Linux and FreeBSD developer. It was the author's exposure to FreeBSD and its "autobuild" feature called "ports", which inspired him to incorporate some of the FreeBSD software management principles into Gentoo under the name of "portage". The idea was to develop a Linux distribution that would allow users to compile the Linux kernel and

applications from source code directly on their own computers, thus maintaining a highly-optimised and always up-to-date system. By the time the project released its 1.0 version in March 2002, Gentoo's package management was considered a superior alternative to some binary package management systems, especially the then widely-used RPM.

- **Pros:** Excellent software management infrastructure, unparalleled customisation and tweaking options, superb online documentation
- **Cons:** Occasional instability and risk of breakdown, the project suffers from lack of directions and frequent infighting between its developers.

CentOS

Launched in late 2003, **CentOS** is a community project with the goals of rebuilding the source code for Red Hat Enterprise Linux (RHEL) into an installable Linux distribution and to provide timely security updates for all included software packages. To put in more bluntly, CentOS is nothing more than a clone of RHEL. The only technical difference between the two is branding - CentOS replaces all Red Hat trademarks and logos with its own. But the connection between RHEL and CentOS is not immediately visible on the CentOS web site; due to trademark laws, Red Hat is referred to as a "Prominent North American Enterprise Linux Vendor", instead of its proper name. Nevertheless, the relations between Red Hat and CentOS remain amicable and many CentOS developers are in active contact with Red Hat engineers.

- **Pros:** Extremely well-tested, stable and reliable; free to download and use; comes with 5-years of free security updates; prompt releases and security updates
- **Cons:** Lacks latest Linux technologies; by the time of release, most software packages are outdated

FreeBSD

FreeBSD, an indirect descendant of AT&T UNIX via the Berkeley Software Distribution (BSD), has a long and turbulent history dating back to 1993. Unlike Linux distributions, which are defined as integrated

software solutions consisting of the Linux kernel and thousands of software applications, FreeBSD is a tightly integrated operating system built from a BSD kernel and the so-called "userland" (therefore usable even without extra applications). This distinction is largely lost once installed on an average computer system - like many Linux distributions, a large collection of easily installed, (mostly) open source applications are available for extending the FreeBSD core, but these are usually provided by third-party contributors and aren't strictly part of FreeBSD.

- **Pros:** Fast and stable; availability of over 15,000 software applications (or "ports") for installation; very good documentation
- **Cons:** Tends to lag behind Linux in terms of support for exotic hardware, limited availability of commercial applications; lacks graphical configuration tools

Sending Us E-Mail?

Due to the amount of e-mail MUUG receives, we've set up an auto-reply to give you immediate feedback, and redirect some of the e-mail to the appropriate places. Please have a look at **http://www.muug.mb.ca/about.html#contacts** first!

Share Your Thoughts

E-mail us with your comments on the newsletter, whether it's criticisms or commendations, and continue to send in articles or ideas for the same. Specifically, what sort of material you would rather see: Announcements, technical articles, new products, or…?

If you have a How-To or other idea, and aren't ready to give a presentation at MUUG, an article is a great alternative! If you can write better than the editor, that's terrific; if you can't, submit it anyway and we'll get it into shape for publication. We know that many of you have some great ideas and lots of knowledge. Why not share? Send Mail to: **editor@muug.mb.ca**