

OPEN SOURCE AWARENESS INITIATIVE FOR THE VOLUNTARY SECTOR IN CANADA

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Executive Summary

Free and open source software (OSS) offers a reliable alternative to proprietary, commercial products and addresses the full range of users' needs. There are standard, user-friendly programs that run on Microsoft Windows and Apple operating systems, alternate operating systems that can be used on all PCs, and a range of Internet server software with advanced functionality (see Part 3).

From the point of view of voluntary organizations, OSS offers multiple advantages. The most significant may be increased cost efficiency, stability and flexibility. Also, legality issues that surround pirated software can be completely avoided and computer-literate volunteers overwhelmingly prefer to work with OSS because of the collaborative culture of the community. Last but not least, investing in OSS puts money back into the local economy and helps raise the skill level (see Part 1).

While OSS has become a mainstream phenomenon just recently, a number of Canadian organizations have been working with it for a while (see Part 2). As always, setting up the information technology infrastructure can be a challenge and requires specialized skills. To meet these challenges, two sets of resources are available. Online, there is a wealth of information and people who will help solve virtually all problems. Furthermore, a support industry has sprung up and experts will provide everything from customized turn-key solutions to maintenance and support (see Part 4).

About this Report

OSS provides exciting opportunities for voluntary organizations that wish to increase the quality and scope of their computing infrastructure without straining their budgets. This report will:

1. explain what free and open source software is and describe its main advantages from the perspective of voluntary organizations.
2. provide case studies documenting how Canadian voluntary organizations with different levels of sophistication are already using OSS.
3. list some specific OSS packages and projects relevant to the voluntary sector.
4. list community organizations and companies that provide services to individuals and groups in the voluntary sector who want to use OSS but do not have all the necessary technology skills in-house.

Part I: Advantages of Open Source Software

Overview

Open source software (OSS) is designed to maximize the freedom of its users. You have the right to use it for any purpose, to copy and distribute it, and to modify it as you see fit. In order to make these rights feasible, the software is released in two forms: as binary code (which machines can read) and as source code (which programmers can read and write). There is only one restriction: you cannot deny others the same right. This means that if you modify and distribute a program, you have to do it under the same terms.

The fact that the source code is accessible to all users is important regardless of whether or not you are a programmer. Consider this: no individual programmer can write a complex software package on his/her own. Free and open source software is developed collaboratively, often by teams of programmers from around the world. Since the code is free, the incentive to create a program is not motivated by financial benefit but by the desire to develop a good software package. Furthermore, any skilled programmer who finds a bug in the code can help out by correcting the error. The openness of the software and the communities developing around it greatly increase the chances that improvements are implemented as soon as they are written, as opposed to an arbitrary marketing schedule designed to maximize revenue for a company.

If this sounds idealistic, it is. But it is also immensely practical and useful. The open source software movement has existed for more than 20 years. Thanks to the Internet, which makes collaboration among distributed groups so much easier, it has become a mass movement in the past decade. The software has matured into a realistic alternative to “proprietary” programs (which you have to pay money for).

Chances are you have already been relying on free and open source software, even if you’re not aware of it. The majority of web sites on the Internet are run using the Apache web server, which is most often installed on a Linux operating system.

Recently, the open source software movement has made great progress in terms of its ease-of-use. You no longer need to be a programmer to install and use it. Now, everyone can benefit from this revolution in computing.

This is particularly good news for the voluntary sector, not just for financial reasons. The open source community has a distinct culture that is quite congenial to the purposes of community-serving organizations. Open source development is a process that incorporates collaboration and sharing, while the program being developed belongs to its community of users, not to individual programmers. There is a strong belief in the righteousness of this arrangement.

The community also recognizes that even free software projects die without the continuous inflow of resources and so it approves the active cultivation of resource flows that depend on the software. Expert programmers make their living working for companies that rely on open source programs, and these companies sell their expertise at supporting or integrating such programs.

OSS culture resonates with the philosophies of many advocacy, arts and community organizations. In particular, those which are strongly motivated to serve the welfare of their respective communities but also actively cultivate resources that will allow them to increase their activities and make them as accessible as possible.

It is reasonable, on both technical and cultural grounds, to ask whether open source collaboration could be used to develop software that meets the distinctive needs of voluntary organizations. We believe this possibility is both exciting and viable. In this report, we will explain the main advantages that arise from the use of free and open source software.

Legality Issues

One of the liberating aspects of free and open source programs is that regardless of what you do, it's legal! You can install it on as many computers as you like and give it to other members of your community freely. If it doesn't completely fit your needs, you can change it or hire someone to change it for you.

This is an incredible contrast to the real and common practice of piracy which sees people copy, download, share, and install copies of proprietary software. In the last couple of years, industry groups like the Business Software Alliance and Canadian Alliance Against Software Theft, have become more aggressive in enforcing (and expanding) copyright laws. Using illegal software puts one at risk of being the target of an investigation which can lead to expensive fines. Using free and open source software completely eliminates this risk.

Cost Effectiveness

Commercial software is expensive because of the need to pay licensing fees. It is also generally built for the latest hardware, which forces you to upgrade your processor speed and memory just to keep using new versions of a program.

If you need help, there is rarely an open community out there that shares information about how to deal with problems of setting up and maintaining the software. After all, service contracts are big business for software companies and as long as they keep the source code hidden, the company that writes (and sells) the software is the only one who really can understand and fix it.

Open source software is cost-effective. You can download it for free. For the most part it is not built to work on only the latest hardware, thus less pressure to upgrade. In fact most open source software runs just fine on out-dated, cheaper, and otherwise “obsolete” hardware.

As well, the basis of each open source software package is an online community of developers and users who freely share information about their programs. This makes it substantially easier to find someone else who has already encountered a similar problem and will happily provide help regarding its solution. Should you need extensive and more direct support, a range of companies specialize in helping organizations use open source software.

Increased Stability

Computers have a tendency to crash due to bugs in the software they’re running. Sometimes these bugs exist because the software is poorly written, other times it’s because it’s being used in an unintended way, or in an environment that is foreign or novel to the software (as in the case of hardware incompatibility).

One of the greatest strengths of OSS is that these bugs can be found and eliminated rapidly because the source code – where the bug is actually located – can be examined and improved by everyone and anyone.

The effect of this open ended peer-review process is that the software becomes far more stable and reliable, because it is frequently updated. While an individual using the software does not have to keep up with the speed of development, they will benefit from the quick turnover of new ideas, features, bugs and security patches.

Changing Licensing Conditions

When you pay for proprietary software, you do not actually own it. Rather, you purchase a license for its use. The problem, of course, is that licensing terms can change.

Sometimes, a program’s initial version is given away for free (or very cheap) to build-up users’ dependency, which then can be exploited through expensive upgrades. Other times, a package that was initially released by a university is then bought-up by a for-profit company, and the licensing terms change. There is virtually no way to predict how licensing conditions will develop over the long term when it comes to proprietary software.

With free and open source software, this uncertainty does not exist. There are no licensing fees and the conditions grant you the unlimited rights to use, distribute and modify programs.

No Technology Lock-In

“Technology Lock-In” may sound like an obscure problem, but it is, unfortunately, quite common. For example have you ever noticed how complicated it can be to open a Microsoft Word document (.doc) in anything other than Microsoft Word? Or have you ever tried to switch databases without losing data? These things can be very difficult, and the programs are sometimes even deliberately built to make it so.

Proprietary software is built based on proprietary standards, which permit its owner the exclusive right to write the software so that it handles best files written according to this standard. Once you start producing files based on this standard, you become dependent on the programs that can handle them. If the standard is closed, you are locked-in to the products made by that one company (and its chosen affiliates).

OSS, on the other hand, is built based on open standards. Open standards ensure that anyone can write a program that can process any particular file (even most .doc files). What this means is that you can choose among a range of programs to do whatever job you need, and can switch programs without losing access to the files you’ve written or being forced to do complex data conversion. In other words, you will not be forced to stay with one specific program (and, say, buy an expensive update) if you no longer like it.

Increased Organizational Flexibility

Having the freedom to use and change software packages will increase the flexibility you have to decide which software is best for your particular and changing circumstances. However, this is not the only reason why OSS increases your flexibility.

Since the source code is available, a qualified programmer can make any changes to the software that your organization needs. Sometimes these changes include things like ensuring that two different pieces of software work together seamlessly, or they can be more radical, such as adding new functionality or making a program work with a particular hardware configuration.

The main advantage is that making changes to the code is your decision, not the software’s owner/author. This enables you to tailor your technology to fit your organization’s particular needs, rather than having to adapt to software that someone else thinks is good for you.

Enhanced Co-operative Culture

Open source software is developed and maintained in a way that will be familiar to most voluntary organizations: co-operatively. This means that in general, it will not be necessary to deal with a far-away company for support. In most cases, an open network of people and groups who develop and use the software collaboratively live nearby.

This greatly increases the chances that organizations will find technical support from someone who understands their particular needs and is able to give advice on how to address them. The sharing of information is at the heart of the movement and there is a wealth of resources out there that feed its growth.

The Ability to Attract Highly-Skilled Volunteers

There are quite a few similarities between the co-operative culture of the OSS movement and the co-operative culture of most voluntary organizations. The overwhelming majority of programmers who are willing to volunteer their time and talents to help voluntary organizations with their IT needs prefer to work with free and open source software.

This helps in two ways. Locally, organizations can attract talented volunteers who will work with your organization and help set-up/maintain your infrastructure. On the Internet, users have access to a huge pool of resources – software, information and people – who will help with problems.

Contribution to the Local Economy

When you buy software, your money usually flows to a company that has very little connection to the work that you do and the community in which you work. This is not the case with OSS. When you need to buy services – for example when setting up your technological infrastructure – you can hire local people who share your goals. This not only makes for better collaboration and understanding, it also supports the local economy. Money stays within your community, rather than flowing out to a company located far away that has little concern for customers who cannot afford to pay large sums for their expertise.

Caveat: Technology Maintenance

There is, of course, a caveat: installing and maintaining any OSS operating system and the applications that run on it requires at least basic knowledge of the Unix environment. While user-friendly Linux distributions like Red Hat make installing the system much easier than it used to be, organizations would greatly benefit from having someone close to the organization (or inside it) who can support Unix-based machines. This is particularly necessary during the network set-up phase. Many complications can occur and some invariably will.

Knowledge of the Unix environment and the technology jargon that surrounds it is necessary for organizations to take full advantage of the support resources available online. These are mostly developed for the mutual support of programmers and can be confusing for end users.

Staff must be trained in how to use the new software, because Unix machines are based on a different architecture than Windows machines. For end-users working on well-configured machines, the differences are not dramatic, but there are subtle changes that are not immediately intuitive.

All in all, introducing an OSS operating system into an organization requires the development and sharing of new, specialized skills. In the long run, the benefits – as described above – can be significant, but so can the early learning curve, particularly for users with no previous Unix experience.

Part II: Case Studies of NGOs Using OSS

Overview

There are already a number of non-profit organizations in Canada that are using free and open source software to do their day-to-day work. Currently, most of these organizations are relatively technologically literate, which means that at least one of their members is experienced with OSS. One can assume that this is a function of them being ‘early adopters’ and is likely to change as the software and its local support resources develop.

In the following, we provide case studies of four very different NGOs who use OSS: Halifax Regional Community Access Program Association (HRCA), Halifax; Keewaytinook Okimakana, Northern Ontario; New Energy Solutions, Montreal; and Seeds of Diversity, Toronto. The case studies are based on a questionnaire sent to them. Contact information is provided, should you require more detailed information about any of the cases. These NGOs, however, do not offer technical support. (For more information about organizations that offer support, please see Part IV of this report.) The replies are edited to provide context and reduce redundancies.

Case Study: Halifax Regional Community Access Program Association (HRCA)

<http://www.hrca.ns.ca>

The mission of the Halifax Regional Community Access Program (CAP) Association is to “support HRM CAP Sites in providing community access to technology and Internet services.” It is part of a federally-funded, national program that aims to bridge the “digital divide” between those who have access to the Internet and those who do not.

The association has an office in Halifax with 20 paid staff. However, all but two are working on and funded through specific projects. The association currently supports 67 members across the province. Most of these members have both volunteer and paid staff and manage their own IT resources.

The association provides six core services to its members:

1. *Organizational Resource:* HRCA supports renewal/maintenance of member organizations in the areas of operations, governance, funding sources, site standards and levels of service.
2. *Administration:* HRCA provides administrative support services to the membership, including central payroll and assistance with writing grant proposals.
3. *Clearinghouse:* HRCA acts as a repository of information for members, sharing funding opportunities, providing a “bulletin board” of current member programs and

job postings, and informing members of shared interests with other members that may lead to funding and other opportunities.

4. *Networking*: HRCAs provides opportunities for members to interact and work together through workshops, training sessions and other formats, in order to ensure that ideas are readily shared and members are aware of activities throughout the municipality.
5. *Central Representation*: HRCAs acts as a point of contact with funding bodies, providing proposal guidelines for how best to make successful proposals. HRCAs is a recipient for funding partners that distributes funds as needed to sites involved in various projects and provides co-ordination for region-wide initiatives.
6. *Information Technology-Related Services*: HRCAs works with members and IT professionals to regularly provide advice for technology standards and related services, which members may use in developing or upgrading their facilities.

Contact at the HRCAs

David Murdoch, Co-ordinator
Halifax Regional CAP Association
6162 Duncan Street,
Halifax, Nova Scotia B3L 1K2
djm@hfx.eastlink.ca

Interview

Q: For how long has HRCAs been using free and open source software?

A: Since our official formation in March 2000. However, we were using it before that for several years, so we had a lot of experience with it.

Q: What are you using it for?

A: We are pragmatic. Whenever using OSS benefits our office's operations, we use it. To do our books, we use Simply Accounting. It only runs on Microsoft, so we have installed Windows on a laptop.

Our website runs on a Linux system, including our mail aliases, mailing list archives (using MHonArc) and some individual website accounts to facilitate maintaining the web space. In the office, all data – four systems total – is backed up to Linux systems. They are just more reliable. The Linux two systems here have been up for 71 days and 96 days respectively.

Our office system uses X-Windows with multiple desktop screens to allow different software programs to display at one time. Pine, Netscape, StarOffice, vncviewer to laptop screen (enables complete access to the laptop on the same monitor), Palm Pilot syncs with StarOffice for event scheduling, fetchmail to retrieve mail from ISP and gftp for website maintenance.

Q: What is your rationale for using OSS?

A: It is more reliable, stable and there less pressure to upgrade. There are almost no problems with viruses and there is good online support (if you know what to search for). Furthermore, it is more configurable and hence adaptable to users' maturity levels (so it's not treating you like you are a new user by asking stupid questions). Finally, the philosophy is one that we can subscribe to: it helps deliver solutions in a community sense, which is what we are all about.

Q: What has your experience been in terms of reliability, flexibility and “fit to needs”?

A: Reliability and flexibility are our primary reasons for using it. Overall, Linux does “fit to needs” once the initial configuration stage is completed. Some specific functions – in our case an accounting package – were not currently available for Linux and so we are using Windows.

Q: What was the main challenge in adopting OSS?

A: Set-up and configuration requires advanced technical knowledge.

Q: Did you have any outside support?

A: We were limited to web contacts to solve specific problems.

Q: Any piece of advice you can offer to NGOs thinking about using OSS?

A: Contact your local Linux Users Group (eg www.nslug.ns.ca) and research what others are doing to replace their computerised office functions with OSS.

Case Study: Keewaytinook Okimakanak, Northern Ontario

<http://www.knet.ca>

Keewaytinook Okimakanak is the Oji-cree term for Northern Chiefs. K.O. is a non-political Chiefs' Council that advises and assists their member First Nations. The organization is directed by the Chiefs of the member First Nations who form their Board of Directors. The First Nations include Deer Lake, Fort Severn, Keewaywin, McDowell Lake, North Spirit Lake, and Poplar Hill.

K.O. presently has staff working in 10 areas. Computer services, handled by K-Net, is one of these areas. It develops and maintains the K-Net Network, a regional broadband network linking First Nations and their service organizations using a variety of ICTs including video conferencing, IP telephony, on-line forums, e-mail, and other web-based communication tools.

Other duties which the computer services department provide are:

1. Computer maintenance and support for the Chiefs Council and First Nations,
2. Operating and managing a small computer business,
3. A regional hardware and software helpdesk service for Industry Canada,
4. First Nations Schoolnet,
5. Developing and facilitating computer training programs.

K-Net has a staff of nine people. Its head office is in Fort Severn, Ontario, and it has two sub-offices in other parts of Northern Ontario.

Contact at K-Net

Dan Pellerin
Network Manager, K-Net Services
danpellerin@knet.ca

Interview

Q: For how long has the organization been using free and open source software?

A: We started using OSS in 1996, with Redhat 4.2.

Q: What are you using it for?

A: We use it for all our server functions. We also use it as a satellite router and for network monitoring.

Q: What is your organization's rationale behind using OSS?

A: There are several reasons for us to use OSS. There are the technical reasons – such as greater flexibility – and its good design construction. It also gives us the ability to modify our systems to suit our needs. We prefer to put money into staff and the community rather than into licensing fees.

Q: If you have used proprietary software in the past, please compare the two experiences.

A: We will use proprietary software where needed. Properly set-up and arranged, both can do well.

Q: What has been your experience in terms of reliability, flexibility, and “fit to needs”?

A: Very good. One of our developers even built our own distribution system, PeeWeeLinux. (<http://peeweelinux.org>)

Q: Did the use of OSS in any way affect your organizational structure?

A: Yes, it allows us to work remotely more and to troubleshoot without having the technicians on site as much. This is particularly important when the infrastructure is distributed.

Q: What was the main challenge in adopting OSS?

A: There are no particular challenges beyond the usual learning. This is the same with proprietary software.

Q: Did you have any outside support?

Off and on we had people help out and offer and sell support, but mostly we did all of it in-house.

Q: Any piece of advice you can offer to NGOs thinking about using OSS?

A: Build locally to get local people solving local problems, then they can take the learning as far as they want. They will increase the community's IT knowledge. Showing them how others have done in similar situations is good.

Case Study: New Energy Solutions, Montreal

New Energy Solutions is not yet operational, but behind the scenes a lot of work is being done to set-up set the organization. Its launch is expected to occur this coming summer, at which point the URL will be made public. New Energy Solutions' headquarters is in Montreal. Its mandate is to provide quick and easy access to web-based letter-writing services for social justice and environmental campaigns.

Contact at New Energy Solutions

Until the mailing address is set up, the best way to contact New Energy Solutions is to send an email to Raj (raj@tao.ca). Raj is chief programmer.

Interview

Q: For how long has New Energy Solutions been using OSS?

A: We have been using it since the beginning of the development phase, which was one 1.5 years ago.

Q: What are you using it for?

A: We use it for all aspects of our web server, which is the crucial part of our operations. We provide a web service that people can use to create a personalized letter or fax (in 2-3 minutes) to specific targets (politicians and other influential people).

Q: What is your rationale for using OSS?

A: The main reason we use OSS is the abundance of free help through online resources. Also, as we expect high traffic on our servers, we have high performance requirements for the software that we are using. There is a lot of high-performance OSS around.

Q: If you used proprietary software before, please compare the two experiences.

A: It's easier to get information about OSS from the web, which speeds up solving problems when installing and maintaining the servers. For proprietary software it is usually hard to get good quality support and the support you get tends to be very expensive, because are too few people understand how to deal with problems and provide sufficient help.

Q: What has been your experience in terms of reliability, flexibility and "fit to needs"?

A: OSS is very reliable! Many OSS tools have been designed to include features that have been requested by end-users. As a result, I have found that when I was designing our website software, many of the seemingly unique requirement I had were perfectly answered by such tools as MySQL, Apache, PHP, Perl and mod_perl .

Q: What was the main challenge in adopting OSS?

A: Understanding installation in some cases, and locating and installing some related components to a given OSS.

Q: Did you have any outside support?

A: We have plenty of support from the online community. The tools we use to get support is the search engine Google (to locate information), various technical email lists, and IRC (or real time interaction with the developer/user community).

Q: Any advice you can offer to NGOs thinking about using OSS?

A: Do not use OSS Office s/w without at least a month-long trial. Until everything is set up, a lot of things can go wrong and it's necessary to have some time to iron out all the wrinkles. It also helps to have someone on board who knows how to get what you need. Make sure that they document what and how they have installed the software, so that the next person won't be lost, or have more than one person working on using the OSS. This advice applies to all software projects, but the need to document is higher with OSS, because there are more things that can be changed (basically everything!).

Case Study: Seeds of Diversity, Toronto

<http://www.seeds.ca>

<http://www.semences.ca>

Seeds of Diversity Canada is a national charitable organization dedicated to the conservation, documentation and use of the broad gene pool of horticultural and agricultural plants. Their members grow and propagate rare plants, and exchange seeds and information with other members. They operate as a living gene bank for over 1,500 plant varieties that are non-patented, non-proprietary, and well-adapted to Canadian growing conditions. They also publish a magazine of interest to gardeners and plant collectors. Headquartered in Toronto, Seeds of Diversity has three staff, about 200 active volunteers, and a total of about 1,600 members throughout Canada.

Contact at Seeds of Diversity, Canada

Bob Wildfong
Executive Director
c/o P.O. Box 36 Stn Q
Toronto ON M4T 2L7
905-623-0353
bob@seeds.ca

Interview

Q: How long have you been using OSS and for what purposes?

A: We have been using MySQL since 2002 for storage and management of horticultural data. During the past two months, I have been using OpenOffice Calc for budgeting and accounting, and OpenOffice Writer for reports and letter-writing. Since the beginning of

2003, we have employed internal custom software written in PHP on a locally-hosted Apache server. I have started to use Mozilla email, though we have no standard email client in our organization.

Q: What is your rationale for using OSS?

A: These software packages meet our requirements, are easy to install and use, appear to be at least as stable as their commercial equivalents and are free (as in “speech” and “beer”). In addition, I am personally attracted to the OSS movement for the same reasons that I am interested in non-proprietary plants. Our plant varieties are also free (as in “speech” and often, though not by necessity, as in “beer”).

Q: If you have used proprietary software, please compare the two experiences.

A: I have plenty of experience with the commercial equivalents of the open-source software mentioned above. Although there are differences that need to be learned, and some minor workarounds necessary to inter-operate with the dominant software packages used by our associates, the transition was quite easy and I don’t really miss the few features that are not (yet) supported. I have discovered a few minor bugs, but nothing worse than those that I have found in commercial software. I think back to Word97 and know that all the bugs will be fixed with time. I do appreciate the ability to report bugs to a responsive community of developers, and to receive support through newsgroups, though I don’t expect that most users would be comfortable with that kind of forum.

Q: What has your experience been in terms of reliability, flexibility, and “fit to needs”?

A: I have had no problems with reliability. I consider the major open-source programs to be as stable or more stable than their commercial equivalents. I am fully impressed with the range of functionality available in these programs and the extent to which they can be customized.

In particular, I feel confident that an open-source solution can always fit our needs because in the extreme case of a desire to customize the program itself, I have the means to do so by downloading and modifying the source code. Although most people working in the voluntary sector cannot do this, it is relatively easy to find a volunteer or contractor who can.

Q: What has been the experience end-users (if applicable)?

A: Our members are using our on-line database, which is powered by open-source software, and I have not heard any complaints about its performance. We have few end-users other than those who use our web site.

Q: Did the use of OSS affect in any way the way the organizational structure?

A: No. OpenOffice is interoperable with other office suites, at the file level. Open-source email clients are interoperable at the POP and SMTP level (we have never used any kind of Exchange-like groupware for internal communication). We have had no impact by using a mixture of software.

Q: What was the main challenge in adopting OSS?

A: A small learning curve. I had to spend a few hours learning the differences, and testing my old files to ensure that they could still be read properly. Trusting the software is a bigger challenge, especially when bugs are discovered. Since we continue to have no major problems, this challenge is fading.

Q: Did you have any outside support?

A: Only those provided by the OSS folks themselves. I think that my staff and volunteers would not be comfortable with this since they haven't used newsgroups and so forth. This would be a source of trepidation if I did not have a background in software development.

Q: Any piece of advice you can offer to NGOs thinking about using OSS?

A: My experience delving into OSS was an initial confusion about the many packages available. There were too many to choose from and it required experimentation to make the choices that we did. This is, in my mind, one of the main reasons that people are happy to buy software from a monopolist – the choice is simple. I would have appreciated some objective advice on the relative merits of the significant packages out there. Of course, I did eventually find several recommendations on various websites, but they took some time to find. This is another advantage of the monopoly – they tell people about themselves, whereas OSS communities don't/can't advertise and market their stuff.

Part III: Open Source Packages

Overview

Open source packages exist for virtually all types of computing needs, whether for a personal computer desktop or a more robust server. The following open source software packages are amongst the most prominent, and widely used, representing a small sample of what is a large and constantly growing genre.

All of the packages listed are highly developed, stable and tested in thousands, if not millions, of installations. They provide no-risk choices for advanced functionality that can be downloaded from the Internet for free.

Risk-Free Trial: Boot CD

Knoppix

<http://www.knoppix.de>

Runs on: Intel-compatible CPU, bootable CD-ROM

License: GPL

Description: Knoppix is a bootable CD with a collection of GNU/Linux software, automatic hardware detection, and support for many graphics cards, sound cards, SCSI and USB devices and other peripherals. It can be used as a Linux demo, educational CD, rescue system, or adapted and used as a platform for commercial software product demos. It is not necessary to install anything on a hard disk. Knoppix comes with a lot of free and open source programs installed and gives a great introduction to Linux for general, office-oriented users. Just download the ISO image, burn it on a CD and you're ready to start.

Desktop

Operating Systems / Interfaces

Debian

<http://www.debian.org>

License: GPL

Runs on: most hardware architectures

Description: non-commercial linux, highly reliable, easy to upgrade.

Redhat

<http://www.redhat.com>

License: GPL

Runs on: most hardware architectures

Description: Commercial Linux, but still free and open source. With support services (useful for larger organizations) Easy to install, fully integrated with graphical interfaces.

KDE

<http://www.kde.org>

License: GPL

Runs on: GNU/Linux

Description: Powerful, easy-to-use graphical interface to Linux OS. Comes with a lot of programs fully integrated such as KOffice (Office package), browser, email, news, IRC and instant messaging client, text editors, utilities and many more.

Gnome

<http://www.gnome.org>

License: GPL

Runs on: GNOME is supported on a variety of platforms, including Linux, Solaris, HP-UX, Unix, BSD and Apple's Darwin.

Description: GNOME is the GUI desktop of the GNU Project. It is intended to be a free and complete set of user friendly applications and desktop tools, similar to CDE and KDE but based entirely on free software.

Commercial Desktops (Canadian)

HomeBase Desktop

<http://www.ozone.com>

License: GPL

Runs on: RedHat 7.3 or higher, Mandrake 8.2 or higher

Description: HomeBase Desktop is a fully-integrated operating environment that offers all of the facilities traditional OSs offer. The difference is that UI is user-centric rather than window-centric. A wide range of Linux applications can manage your information and increase your productivity, and an innovative "personal portal" pulls it all together.

Xandros Desktop

<http://www.xandros.com/>

License: freely copiable for non commercial users

Runs on: Pentium II or higher

Description: Xandros Desktop is an easy to use, highly compatible Linux distribution for desktop computer users. It provides an alternative operating system environment that is simple to install, configure and use, provides extensive Microsoft Windows OS and network compatibility, and harnesses the power of Linux to provide a viable, highly functional and reliable Linux desktop that is easy to use.

Application Packages for Office Use

OpenOffice

<http://www.openoffice.org>

License: GPL-compatible

Runs on: Windows / Mac OSX / Linux / Sun Solaris

Description: OpenOffice understands itself as a free replacement of Microsoft office (and other such packages). It consists of similar components: Writer (Word), Impress (Powerpoint), Calc (Excel), and, in addition, Draw (a drawing programme). It is fully compatible with all MS Office file formats. OpenOffice has been translated into many languages, so no need to stick to the English version. All components are fully functional as downloaded and there is really no reason to use MS Office anymore. Save money or get rid of illegal software on your computer which, who knows, might get you in trouble some day.

Abiword

<http://www.abisource.com>

License: GPL

Runs on: GNU/Linux; Mac OSX; Win; QNX; BeOS

Description: AbiWord is a free word processing program similar to Microsoft Word. It is suitable for typing papers, letters, reports, memos, etc.

GnuCash

<http://www.gnucash.org>

License: GPL

Runs on: GNU/Linux, MacOSX

Description: Finance Software for small organizations. Designed to be easy to use, yet powerful and flexible, GnuCash allows you to track bank accounts, stocks, income and expenses. As quick and intuitive to use as a checkbook register, it is based on professional accounting principles to ensure balanced books and accurate reports. GnuCash is backed by an active development community and is blossoming into a full-fledged accounting system.

Internet

Mozilla

<http://www.mozilla.org>

License: GPL-compatible

Runs on: Windows, Mac, Gnu/Linux

Description: Browser, email and news client, html authoring tool

Kbear

<http://kbear.sourceforge.net/>

License: GPL

Runs on: GNU/Linux

Description: Easy-to-use graphical FTP client

Kmail

<http://www.kde.org>

License: GPL

Runs on: KDE

Description: Powerful, easy-to-use email client, part of the KDE package

Chatzilla

<http://www.mozilla.org/projects/rt-messaging/chatzilla/>

License: GPL-compatible

Runs on: Windows, Mac, GNU/Linux

Description: ChatZilla is a free IRC client that runs from within Mozilla-based web browsers.

Jabber

<http://www.jabber.org>

License: GPL

Runs on: Windows, Mac, GNU/Linux

Description: Jabber is a flexible Instant Messaging Client allowing for real time communication between remote users.

Speakfreely

<http://www.speakfreely.org>

License: GPL

Runs on: Windows

Description: Speakfreely is an internet telephony program, allowing users to communicate with voice over ip.

Multimedia**GIMP (images)**

<http://www.gimp.org>

License: GPL

Runs on: GNU/Linux; Mac OSX; Win; OS/2

Description: GIMP stands for GNU Image Manipulation Program and is the standard programme in this area. It is a freely distributed piece of software that does kinds of things with still images, such as photo-retouching, image-composition and image-authoring. It can be used as a simple paint program, a quality photo-retouching program, an online batch-processing system, a mass-production image renderer, an image format converter, etc. While it is ready to use as downloaded, GIMP is also extremely expandable and extensive. It is designed to be augmented with plug-ins and extensions, so it will do just about anything. The advanced scripting interface allows everything from the simplest task to the most complex image manipulation procedures to be easily scripted.

Zinf (audio)

<http://zinf.sourceforge.net/>

License: GPL

Runs on: Win; GNU/Linux

Description: The Zinf audio player is a simple, but powerful audio player for Linux and Win32. It supports MP3, Ogg/Vorbis, WAV and Audio CD playback, SHOUTcast/Icecast HTTP streaming, RTP streaming, a powerful music browser, theme support and a download manager.

Mplayer (audio)

<http://www.mplayerhq.hu>

License: GPL

Runs on: Gnu/Linux

Description: MPlayer is an advanced movie player for LINUX. It plays most audio and video formats; everything from obscure formats (NuppleVideo) to industry standards (all flavors of mpeg) to proprietary codecs (WMA). While mostly known and used as a movie and DVD player, it supports a wide range of audio output drivers, http and rtsp streaming (including user-definable buffer rates), and a number of filters for re-sampling, panning, delay..etc. It has more command line options than you can count on your appendages.

Audacity (audio)

<http://audacity.sourceforge.net>

License: GPL

Runs on: Win; Mac; GNU/Linux

Description: Audacity is a free audio editor. You can record sounds, play sounds, import and export WAV, AIFF, and MP3 files, and more. Use it to edit your sounds using Cut, Copy and Paste (with unlimited Undo), mix tracks together, or apply effects to your recordings. It also has a built-in amplitude envelope editor, a customizable spectrogram mode and a frequency analysis window for audio analysis applications. Built-in effects include Bass Boost, Wahwah, and Noise Removal, and it also supports VST plug-in effects.

XawTV (video tools)

<http://bytesex.org/xawtv>

License: GPL

Runs on: GNU/Linux

Description: XawTV is a suite of TV & Video tools for Linux.

Livid (video tools)

<http://www.linuxvideo.org>

License: GPL

Runs on: GNU/Linux

Description: The LiViD Project is a collection of video and dvd related sub-projects. It attempts to provide one central location for users to find information and support for video hardware and software.

FFMpeg (video tools)

<http://ffmpeg.sourceforge.net>

License: LGPL

Runs on: GNU/Linux, Windows, Mac, BeOS

Description: FFmpeg is a complete solution for recording, converting and streaming audio and video.

Avidemux (video tools)

<http://fixounet.free.fr/avidemux/>

License: GPL

Runs on: GNU/Linux

Description: Avidemux is a graphical tool used to edit AVI video streams.

Internet/Intranet Server-side Packages

Webserver

Apache

<http://www.apache.org>

License: GNU/Linux

Runs on: Unix, Windows NT

Description: The most widely-used webservice software out there.

Content Management Systems:

Slashcode

<http://slashcode.com>

License: GPL

Runs on: GNU/Linux

Description: Slash is a highly flexible database-driven news and message board, using Perl, Apache and MySQL.

Drupal

<http://www.drupal.org>

License: GPL

Runs on: GNU/Linux

Description: Drupal is an open-source platform and content management system for building dynamic web sites offering a broad range of features and services including user administration, publishing workflow, discussion capabilities, news aggregation, metadata functionalities using controlled vocabularies and XML publishing for content sharing purposes.

Zope

<http://www.zope.org>

License: GPL

Runs on: GNU/Linux

Description: Zope is a leading open source application server, specializing in content management, portals, and custom applications.

Webmail

TWIG

<http://twig.screwdriver.net>

License: GPL

Runs on: GNU/Linux

Description: TWIG is an Intranet/Groupware tool and application framework, currently supporting email, contact management, scheduling, and newsgroup functionalities.

SquirrelMail

<http://www.squirrelmail.org>

License: GPL

Runs on: GNU/Linux

Description: SquirrelMail is a standards-based webmail package written in PHP4. It has all the functionality you would want from an email client, including strong MIME support, address books and folder manipulation.

Email Lists

Mailman

<http://www.gnu.org/software/mailman/mailman.html>

License: GPL

Runs on: GNU/Linux

Description: Mailman is software that helps manage email discussion lists. Mailman gives each mailing list a web page, and allows users to subscribe, unsubscribe, etc. over the web. Even the list manager can administer his or her list entirely from the web. Mailman also integrates most things people want to do with mailing lists, including archiving, mail-to-news gateways, integrated bounce handling, spam prevention, email-based admin commands, direct SMTP delivery (with fast bulk mailing), support for virtual domains, and more.

Sympa

<http://www.sympa.org>

License: GPL

Runs on: GNU/Linux

Description: Sympa is a mailing-list manager. It allows users to automate all mailing-list operations such as subscription with automatic authentication, unsubscription, archiving messages, etc.

Multimedia Streaming Servers:

Helix

<https://www.helixcommunity.org>

License: RPSL, RPSL

Runs on: GNU/Linux,

Description: The Helix DNA Server is a universal media delivery engine that supports the real time packetization and network transmission of any media type to any device. It is a component of the Helix platform, which also includes a multi-format media encoder and a media playback engine.

Part IV: Support Using Open Source Software

Overview

Organizations seeking OSS support have two basic options: The first is to choose from the growing number of commercial support providers, and the second is to tap into freely available online support resources.

As OSS becomes more popular, more and more IT firms are beginning to offer professional support services. The list of support providers includes small to medium sized businesses, as well as large companies such as IBM and HP. These commercial support providers are ideal for organizations without the time or expertise to manage their own IT infrastructure.

Most OSS support providers offer a full range of services, including consultation, administration, and troubleshooting. This allows the level of support to match the needs of the client organization. Whether those needs involve a total support solution or help with a specific software package, there are many companies willing to help.

An alternative to seeking commercial support is to take advantage of online support resources. Most popular OSS products have extensive documentation as well as online support communities. There are many sites that offer FAQs (Frequently Asked Questions) and detailed information about specific OSS packages. Some of the larger distributors, such as Red Hat Linux, also offer their own support services. While this channel of support takes more time and effort to explore, it can still be a valuable source of information. This may be the optimal route for organizations who are more familiar with their own IT infrastructure and are comfortable using online resources.

What follows is a list of Canadian companies who offer OSS support services. This list is not an overview of participants in the Canadian OSS industry, but rather a sample of Canadian companies who specialize in providing support services for the non-profit sector.

List of Canadian OSS Support Providers

Alberta

Danen Consulting Services
Edmonton, Alberta
<http://www.danen.net>

Danen Consulting Services provides Linux consultations to the Edmonton, Alberta area. They provide support, installation, configuration and monthly support on Linux workstations or servers.

Emergence by Design Inc.
<http://www.emergence.com/>
Edmonton, Alberta

Emergence by Design Inc. is an internet technology services company specializing in the development, implementation and maintenance of dynamic database-backed web sites and e-commerce solutions. Emergence by Design has extensive knowledge in the area of content management and is one of the world's largest Zope development houses.

Open Enterprise Solutions
Calgary, Alberta
<http://www.openenterprise.ca>

Open Enterprise Solutions offers Open Source and Linux support, development, and consulting services.

British Columbia

LuteLinux
Vancouver, BC
<http://www.lutelinux.com>

LuteLinux provides support, training, and consulting services for Linux-based systems.

Minek Consulting Inc.
Vancouver, BC
<http://www.minek.com>

Minek provides a variety of Linux-based professional services, including remote administration and support, as well as Linux integration.

Linux Magic
Surrey, BC
<http://www.linuxmagic.com>

Linux Magic provides Linux support, administration, and custom software development.

Manitoba

Prefix
Winnipeg, MB
<http://www.prefixservice.com>

Prefix offers complete hardware and software support for Linux machines in the Winnipeg area.

New Brunswick

WMC Consulting
Miramichi, NB
<http://www.wmc-consulting.ca>

WMC Consulting offers integrated IT solutions, including Linux-based technical support and strategic consulting.

Ontario

Openflows Networks Ltd
Toronto and Waterloo Ontario
<http://openflows.org>

Openflows is a Toronto based professional services firm specializing in free and open source software. Their clients include health, media, and voluntary organizations.

asi-x
Toronto, Ontario
<http://www.asi-x.com>
asi-X Inc is Toronto based consulting company that specializes in Linux-based solutions. Our goal is to provide Open Source users with the tools and techniques they need to run an efficient and secure system in today's insecure world.

Steamballoon
<http://www.steamballoon.com/>
Ottawa, Ontario
Steamballoon provides custom development of applications using a wide range of Open Source programs and languages.

Linux Network Care
Toronto, Ontario
<http://www.linuxnetworkcare.com>
Linux Network Care provides computer network services and support for small and medium sized businesses, with a focus on open source solutions.

OpenConcept Consulting
Ottawa, Ontario
<http://www.openconcept.ca>
OpenConcept focuses on serving progressive organizations working for social change. They provide design, hosting, and support services with an emphasis on open source.

Peaceworks Computer Consulting
Waterloo, Ontario
<http://peaceworks.ca>
Peaceworks is a computer consulting group dedicated to providing affordable computer consulting to the non-profit sector and to small family businesses.

Smaller Solutions
London, Ontario
<http://www.smallersolutions.ca>
Smaller Solutions is a start-to-finish service provider specializing in Linux and Open Source software for small businesses and not-for-profit organizations. Through our partnerships and reseller agreements, Smaller Solutions is able to offer a variety of products that could help your company save thousands of dollars in software and hardware costs.

ntropiX

Toronto, Ontario

<http://www.ntropix.com>

ntropiX Inc is an integrated solutions provider, offering customized and innovative answers for today's e-business needs. They are geared towards open systems and open source applications.

IBM

Markham, Ontario

<http://www.ibm.ca>

IBM supports major distributions of the Linux OS as well as all IBM and some non-IBM applications that operate in a Linux environment.

Roaring Penguin Software

<http://www.roaringpenguin.com/>

Ottawa, Ontario

Roaring Penguin Software's mission is to provide clients with inexpensive, reliable and powerful computing environments and information-processing solutions. As part of their mission, they try to use and create free software (also called open source software) wherever possible.

Flora Community Consulting

<http://www.flora.ca/>

Ottawa, Ontario

Flora provides consulting and technical services particularly geared to the non-profit sector.

Quebec

Open Network Architecture

Montreal, Quebec

<http://www.openna.com>

Consulting and customized support contracts for deploying secure and optimized Linux servers technologies in the enterprise are available along with remote administration.

Opersys Inc.

<http://www.opersys.com/index.html>

Montreal, Quebec

Opersys helps companies leverage open source components to solve development, integration and deployment problems.

8D Technologies

Montreal, Quebec

<http://www.8d.com>

8D provides a wide range of Linux-based professional support services, along with training and custom software development.

LQT Systems Inc

<http://www.lqt.ca/>

Québec, Québec

The main research/development and marketing activities focus on the creation and optimization of Linux servers for network management.

G-Tech Consulting

Montreal, Quebec

<http://www.top-consulting.net>

G-tech Consulting is a Montreal based Unix consulting company committed to offering world-class services and support to small and medium-sized companies in person or remotely.

Savior-Faire Linux

Montreal, Quebec

<http://www.savoirfairelinux.com>

Savoir-Faire Linux focuses on Linux Business integration, providing support, training, and other open source consulting services.

Free Support Resources Online

<http://www.linuxselfhelp.com>

<http://www.tldp.org>

<http://support.marko.net>

<http://www.linewbie.com>

Glossary

Apache

Open source web server (software) available for most UNIX systems (such as Linux, Solaris, Digital UNIX and AIX), and Windows NT/2000.

Free Software Foundation (FSF)

Founded in 1983 at MIT, along with its demonstration GNU project by Richard Stallman, to prove that an operating system could be developed and shared freely. In this case, “free” does not mean at no charge, but refers to the uses available to the person who acquires the software. FSF believes that an individual has the right to study and make changes to a program’s source code in order to improve, redistribute and re-sell, as long as this option is also available to others.

GNOME (GNU Network Object Model Environment)

A graphical user interface and set of applications that include a word processor, a spreadsheet program, a database manager, a graphic presentation program, a web browser, and an e-mail program. GNOME was developed out of work by the Free Software Foundation.

GNU (Gnu’s not Unix)

A UNIX-like operating system built with source code that can be copied, modified, and redistributed. The GNU project was started in 1983 by Richard Stallman and the FSF. Linux consists of GNU components and a kernel developed by Linus Torvalds.

KDE (K Desktop Environment)

KDE is an open source graphical desktop environment that includes a file manager, a window manager, a help system, a configuration system, tools and utilities, and several applications. The KDE project was started in October 1996 by Matthias Ettrich.

Linux

An operating system designed to provide Intel PC users with a low-cost alternative to UNIX, which is available for all major hardware platforms. Linux’s kernel was developed by Linus Torvalds at the University of Helsinki. To complete the system, Torvalds used components from the Free Software Foundation’s GNU project.

Mozilla

Mozilla was Netscape Communication's nickname for Navigator Web browser. More recently, it is the name of an open source web browser project, .NET, Microsoft's strategy and programming efforts to address Web services. Their goal is to provide seamless interaction between applications and computers.

Open Source

Any program in which the source code is made available for use or modification as users and other developers see fit. Historically, proprietary software developers have not made their software's source codes available.

Operating System

The program loaded into the computer by a boot program (BIOS) that manages the other programs. Linux, Windows 2000, VMS, OS/400 and AIX are all examples of operating systems.

Source Code

A computer program before it is compiled and run on a computer. Purchased operating system or application software, is usually in compiled object code while the source is not included.

Web Server

A program that manages the files that form web pages that are presented to web users. The leading web servers are Apache and Microsoft's Internet Information Server (IIS).