$2.50

MUUGlines

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This Month's Meeting – Unix and Internet Security!

This is the meeting we had intended to have last month. We have an exciting presentation on security issues with Unix and Linux when connecting to the Internet. Our presenter is Marc Rogers of the City of Winnipeg's computer crime division. Marc is also running an ISP based on Linux, so he has a great deal of personal experience with the latest security issues!

The meeting will start off with the usual round-table discussion (question and answer session), so feel free to bring all your Unix-related questions!

Future Meetings

The following is a tentative outline of meeting topics for upcoming months:

May 13, 1997: A Look at Java

June 10, 1997: Intranetworking and Connectivity with Linux

Where To Go

Our sixth meeting of this year will be at our regular location, IBM Canada's offices in the TD Centre building at the corner of Portage and Main. We'll be meeting at the lobby on the main floor, and Steve Moffat will take us up to the meeting room just before the meeting starts.

This month's meeting is on Tuesday, March 11th at 7:30 PM. Please arrive before this time for the meeting, as it will take some time for Steve to get people up to the meeting room.

Parking is available either in the parkade behind the TD building (off Albert St.), or in the ground level lot just north of the TD building. Entrance to the lot is from Albert Street, behind the parkade. Either way, parking is $1.25 flat rate for the evening.

Linux Rides Space Shuttle

Contact: Bruce Perens <bruce@debian.org> 510-215-3502

A radically different new computer operating system is controlling an experiment on a Space Shuttle mission in late March. The experiment tests "hydroponics", a way of growing plants without soil that could eventually provide oxygen and food to astronauts. The computer controlling the experiment runs "Debian GNU/Linux", an operating system built by a group of 200 volunteer computer programmers who tele-collaborated over the Internet and never met each other. The system has many earthly uses - it can replace conventional operating systems such as Microsoft's "Windows 95" on personal computers. In a departure from conventional operating system practice, the volunteer group is giving the system and all of its source code away for free. Details are available on the group's web site: http://www.debian.org/.

"Linux is the modern successor to the Unix operating system developed by Bell Labs during the 1970s", said Bruce Perens, leader of the Debian project. "A Finnish college student started Linux in the early 1990s, and was joined by others on the Internet who helped develop the system. We united Linux with free software contributed by other volunteers to make a complete system of 800 software packages. The result communicates on the Internet and includes, for free, many normally-expensive programs such as web servers, computer languages like Java, C, and C++, and many other programs".

The space shuttle experiment will fly on mission STS-83 in late March and early April. Sebastian Kuzminsky is an engineer working on the computer that controls the experiment, which is operated by Biosciences Corporation. Kuzminsky said "The experiment studies the growth of plants in microgravity. It uses a miniature '486 PC-compatible computer, the Ampro CoreModule 4DXi. Debian GNU/Linux is loaded on this system in place of DOS or Windows. The fragility and power drain of disk drives ruled them out for this experiment, and a solid-state disk replacement from the SanDisk company is used in their place. The entire system uses only 10 watts", said Kuzminsky, as much electricity as a night-light. "The computer controls an experiment in hydroponics, or the growth of plants without soil", said Kuzminsky. "It controls water and light for the growing plants, and sends telemetry and video of the plants to the ground".

Educators have also gravitated to the "Debian GNU/Linux" system. David Teague, a computer prof at Western Carolina University, says "most of the laboratories in our CS department run Debian. We use it to teach programming, operating systems, system administration, and web page design". Schools from the primary grades to college use the system to provide inexpensive Internet access to their students.

"Most of us are computer professionals, but we produced Debian GNU/Linux as a hobby project", said Perens, who works as a graphics programmer for the company that made "Toy Story". "It started out three years ago as a loose collaboration of 60 people who had communicated on the Internet but had never met each other. We were dissatisfied with the operating systems available to us, which had not kept pace with the development of our computer hardware. We felt that the

'net had become so big that we could bring a group of volunteer programmers together on it to produce things that had only been made by huge companies up to now. We hoped that lots of people would put the system we created to serious use, but we couldn't advertise it except by making a web page and talking about it on the Internet. It didn't take long for us to pick up thousands of users, and for the volunteer staff to swell to 200 programmers from all over the world. People were taking Microsoft off of their systems to install Debian". Today the system has spawned its own non-profit organization, "Software in the Public Interest", to support further development. The members come from every continent in the world.

"We're still interested in picking up more volunteers", said Perens, "and we always welcome new users". People interested in the system can learn about "Debian GNU/Linux" on the group's web site "www.debian.org". The web site provides free downloads of the entire system, and instructions on installing it.

SOLID desktop for Linux offered free of charge to developers

Solid Information Technology Ltd today announced a campaign targeted at the community of Linux developers. Between March and September 1997 Linux enthusiasts will be presented with a free personal version of the robust SQL database engine SOLID Server. Numerous commercial and non-commercial web sites are joining Solid Information Technology Ltd in this program by letting their web visitors download the free SOLID Desktop from their site.

Linus Torvalds, the creator of Linux, comments on the initiative: "This generous offer from Solid is warmly welcomed in the Linux community, and I share the enthusiasm of my fellow Linux developers around the globe. Solid's campaign manifests the mutual benefits commercial and non-commercial groups may have."

"With this campaign we want to show our appreciation of the voluntary efforts that are so characteristic of the Linux community," states Artturi Tarjanne, President of Solid Information Technology Ltd. "In just a few years, Linux has grown from an academic exercise into a commercially viable solution. Today, some of the hottest software development projects on earth are Linux based. Those highly mission-critical systems need a robust, commercial database management system, and we've got it. And if anybody is in doubt regarding the care-free nature of SOLID Server, we offer free technical support until the end of April 1997."

The SOLID Desktop for Linux is offered free of charge for anyone to download from numerous web sites around the world. The licence is for personal and development use. Solid offers free technical support until the end of April 1997. Users can at any time choose to upgrade the software to the commercially available SOLID Server for client/server applications and SOLID Web Engine for web applications. SOLID Server is also available on other Unix systems and on all Windows platforms.

SOLID Server is a unique product by Solid Information Technology Ltd, a privately held innovator of breakthrough database technologies. SOLID Server database components are in embedded use in web sites, diesel engines, elevator control systems, point of sale systems, travel agency systems, sales force automation systems, and many more.

Further information

To download your own copy of SOLID Desktop for Linux, access http://www.solidtech.com/linuxfre.htm to find a site near you. Free technical support over e-mail is available until the end of April 1997 at mailto:linux-support@solidtech.com.

For other inquiries, please contact Mr Iko Rein, mailto: iko.rein@solidtech.com or fax to +358-9-4774 7390. Solid Information Technology Ltd, http://www.solidtech.com.

SOLID Server is a trademark and the SOLID logo is a registered trademark of Solid Information Technology Ltd.

The Usenix Association - Upcoming Events

June 16-20, 1997
3RD USENIX CONFERENCE ON OBJECT-ORIENTED TECHNOLOGIES AND SYSTEMS (COOTS)
Portland, Oregon, Marriott Hotel
Program Chair: Steve Vinoski, Hewlett-Packard
Tutorial Program Chair: Doug Schmidt
June 20, 1997: Advanced Workshop on "Software Components: Integration and Collaboration"
Attendance is based on acceptance of a position paper. Potential attendees are invited to submit a position paper by May 20, 1997.

July 14-17, 1997
5TH USENIX TCL/TK WORKSHOP
Boston, Massachusetts, Tremont House Hotel
Program Chairs: Joe Konstan, University of Minnesota and Brent Welch, Sun Microsystems

August 11-13, 1997
USENIX WINDOWS/NT WORKSHOP
Seattle, Washington, Sheraton Hotel

Program Chairs: Mike Jones, Microsoft Corporation and Ed Lazowska, University of Washington

August 14-16, 1997
LARGE-SCALE SYSTEMS ADMINISTRATION OF NT WORKSHOP
Seattle, Washington, Sheraton Hotel
Program Chairs: Xev Gittler, Lehman Brothers and
Phil Scarr, Synopsys

October 15-17, 1997
USENIX CONFERENCE ON DOMAIN-SPECIFIC LANGUAGES (DSL)
Santa Barbara, California, Red Lion Resort
Program Chair: Chris Ramming, AT&T Labs
Paper submissions due: June 13, 1997

October 26-31, 1997
11TH USENIX SYSTEMS ADMINISTRATION CONFERENCE (LISA '97)
San Diego, California, Town & Country Hotel
Co-sponsored by SAGE, the System Administrators Guild
Program Chairs: Hal Pomeranz, NetMarket/CUC Intl. and
Celeste Stokely, Stokely Consulting
Extended abstracts due: June 3, 1997

December 9-12, 1997
USENIX WORKSHOP ON INTERNET TECHNOLOGY AND SYSTEMS (WITS)
Monterey, California, Monterey Marriott Hotel
Program Chair: Carl Staelin, Hewlett-Packard Laboratories
Sponsored by the USENIX Association
Extended abstracts due: July 8, 1997

January 26-29, 1998
7TH USENIX SECURITY SYMPOSIUM
San Antonio, Texas, Marriott Hotel
Program Chair: Aviel Rubin, Bellcore
Sponsored by the USENIX Association in cooperation with
The CERT Coordination Center
Extended abstracts due: September 9, 1997

Since 1975 the USENIX Association has brought together the community of engineers, scientists, and technicians working on the cutting edge of the computing world.

For more information, including registration details, about these USENIX events, please: Send email to: info@usenix.org. The body of your message should state "send conferences catalog." A catalog will be returned. See our web page: http://www.usenix.org. Or, contact the USENIX Conference Office, 22672 Lambert Street, Suite 613, Lake Forest, CA 92630 USA 714 588 8649; Fax: 714 588 9706; Email: conference@usenix.org

Chock Full of Knowledge Award

From RedHat's Why Linux is Better Than Windows NT/95 Contest
—Linas Vepstas

Linux vs. NT as a "strategic" platform choice. I want to clarify some points, and John, I would like to ask you to include a suitably edited version of this note in the next draft of the Intransco business plan.

Linux was chosen over OS/2 and NT in 1994 as a tactical, not a strategic, OS for the reasons below. That we are still with Linux demonstrates that this was a good choice. Linux remains a tactical, not a strategic choice.

o Safe Bet. If Linux failed to provide a suitable future for whatever reason, there is a simple and easy-to-execute backup plan: switch to a different Unix. Code developed on Linux can be easily, almost trivially, ported to other Unix's. The alternatives are many: — HP's HP/UX — IBM's AIX — SGI's Irix — DEC Unix — Sun's Solaris — Novell's Unixware — SCO's Unix — BSDI's Unix

o Scalability. Unix provides a clear scalability path that neither OS/2, nor NT provides, either then or now. If Intransco is successful, there is a real reason to believe that transaction rates could rise to the millions-per-hour rates, and larger, more powerful systems would be required. Moving up the power and performance ladder, we see: — Intel Based PC's, running Unix, OS/2 or NT. — DEC Alpha running DEC Unix, Linux or NT — Other uniprocessor RISC machines, running Unix. — 8-way to 32-way multi-processor/ cluster "supercomputers" running Unix: + SGI's 8-way Challenge Series, running Irix + Fujitsu 32-way SuperSparc machines, running Solaris or Linux. + IBM's RS/6000-based SP/2, 4-way to 256-way, running AIX + Other Unix clusters — IBM 3090 mainframes, running MVS. I mention this because IBM claims POSIX, X/Open and SPEC 1170 compliance for Unix/MVS on the 3090. In particular, this implies that Unix programs should compile and run, with little or no modification, on the 3090 mainframe. (Note that early versions of IBM Unix on the mainframes did not offer performance comparable to native MVS. IBM claims that in the last few years, this has been remedied.)

Basically, OS/2 never got off the first rung of this ladder, and NT barely made it onto the second. Only Unix covered the full "palmtops to teraflops" range in performance.

o Cost. The real cost of a platform choice is not just the cost of the hardware and the operating system (where Linux is the clear winner), but the cost of

additional software, services and support required to create and operate a computing complex.

In the early stages, the cost of tcp/ip stacks, httpd (web) servers, network management software, SQL databases, backup software, e-mail, NFS (network file system), firewalls, source code repositories, project management tools, compilers, debuggers, etc. (including the multi-seat, multi-user licenses for these) were a real concern, both for NT and OS/2. A shopping spree to properly equip an NT or OS/2 box with all of these gotta-have, mandatory packages would have run into the tens-of-thousands of dollars per box. Cheap, shareware, and/or freeware versions of these things simply did not exist for OS/2 or NT. (Did not exist then; today, I do not know). By contrast, Linux offered a choice of both cheap/shareware/freeware versions, and large, expensive commercial packages that could address the need as the requirements for speed, features, and reliability escalated.

As to the cost of service and support, the choice seemed to be a wash. Programmers for NT, OS/2 and Unix are about equally expensive. There is a stunning variety of Linux mailing lists exploring specialty topics, such as specific Linux RAID vendors, Linux X.25 and Frame Relay vendors, Linux network management packages, Linux mission-critical topics, Linux security alerts, specific Linux database vendors, etc. While similar mailing lists probably exist for OS/2 and NT, I do not know. I can attest that they do exist for Linux.

These four criteria were applied in 1994 and 1995. Intransco has not formally reviewed these criteria for suitability for is business goals in 1996. However, I believe that fundamentally, the criteria have not changed, with the possible addition of a fifth criterion covering Intranet solutions.

In conclusion, Linux remains a tactical, and not a strategic choice. The Intransco software has been designed to be modular, allowing easy upgrades and/or ports to other operating systems and platforms as the need requires.

The Top Ten Reasons Why Linux is Better than Windows 95/NT:

These entries are intended to be a humorous snapshot of the reasons Linux users find not to use NT. Have fun!

10. NASA uses Linux in the space shuttle and it hasn't crashed! -- Timothy Robb
9. Why transform your Pentium into an 386 with Windows when you can transform your 386 into a Pentium with Linux ?! -- Bruno Kraychete da Costa
8. It runs on more platforms than Windows! -- Jukka Isosaari
7. Linux is free! -- Petri Suominen, Corey Reece, Hugh Buchanan, Sean Mollet, Jeff Nordan, Mark A. Pitman, Daniel J. Hoyt, Tan Jeng How, Mikhael Goikham, and Michael Steel
6. Microsoft doesn't have as many developers working on their OS. -- Matt Bottrell
5. Bill Gates won't respond to your questions on a mailing list. -- Manoj Kasichainula
4. Rrrrrrrrroooooooooooooooooooot! -- Ethan Torretta
3. Why phone for help, when you can go to the source. -- Adrien Beaudin
2. You can share Linux with your friends. -- Evan Summers
1. Windows: I can play Doom!, Linux: I can be a file server, be a Web server, run the accounting package with 12 terminals hanging off me AND play DOOM! -- Matthew Hoskins

Local UNIX Job Opportunities

Two job opportunities requiring UNIX experience, here in Winnipeg, were brought to the group's attention.

The North West Company is looking for a Senior Software Designer, to lead in the design and development of a Warehouse Management System, using paperless picking, bar-coding and RF scanning as some of the control technologies. The position requires a post-secondary degree with 5 to 8 years of experience in this field, and strong C skills under an AIX/UNIX environment.

New Flyer Industries is looking for a UNIX systems administrator, responsible for the day-to-day management and performance of 5 HP servers running HP-UX 10, linked to over 130 PCs via an NT network. The position requires a BSc degree and/or advanced computer study, along with 2 years of UNIX experience. A background managing an HP MC Service Guard is preferred. Experience managing NT would be an asset, as would experience working in the manufacturing industry.

For further information, contact Ms. Sherry Phaneuf, at The Bentley Consulting Group Ltd. Phone (204) 987-4840, FAX (204) 987-4846, or e-mail <bentley@mts.net>.

Contact Information

To contact the MUUG board for membership information or anything else, send e-mail to board@muug.mb.ca. We have a Web presence as well, at http://www.muug.mb.ca/, where you can find all kinds of information, including details of upcoming and past meetings and presentations and references related to them. E-mail the editor at editor@muug.mb.ca.