news

UPDATES ON TECHNOLOGIES, TRENDS, AND TOOLS

This Month

A Fabric of Computing

I was fortunate enough to attend LinuxCon 2010 in Boston on behalf of *Linux Magazine*, and although the four-day event was packed with informative sessions, networking, and philosophical discussions over the nature of open source and upstream contributions, some of the most significant news came from The Linux Foundation, itself.

On August 10, Jim Zemlin, executive director of The Linux Foundation, announced the Open Compliance Program, a six-part, non-profit initiative designed to provide an up-to-date reference resource for open source licenses. With the Open Compliance Program, The Linux Foundation wants to provide enterprise open source adopters with the most recent license information so they can stay well within licensing guidelines.

Zemlin also announced that the Qualcomm Innovation Center Inc. (QuIC), would be joining the Linux Foundation at the foundation's highest level. QuIC develops open source software for mobile devices, a field Zemlin and the foundation as a whole have stated is the future of Linux. The Linux kernel is already at the heart of Android, WebOS, and MeeGo. These two announcements in tandem set the tone for the conference and work as a definition of The Linux Foundation's efforts as a whole. With the Open Compliance Program, The Linux Foundation can ensure that open source adopters can pursue their projects with minimal legal concerns. At the same time, QuIC's admission to the board of directors ensures that the Foundation will have a stake in Linux on embedded and mobile devices.

"The future, really, of Linux isn't just on a desktop or on a phone, it's really becoming this underlying fabric of computing in every single form factor that you have," Zemlin said.

If LinuxCon is any indication, that future will be here sooner rather than later.

MORE NEWS ONLINE

Mark Shuttleworth Announces UTouch

http://www.linuxpromagazine.com/Online/News/Mark-Shuttleworth-Announces-UTouch-Framework

LinuxCon 2010 Interview: Jim Zemlin

http://www.linuxpromagazine.com/Online/News/LinuxCon-2010-Interview-Jim-Zemlin-Executive-Director-of-The-Linux-Foundation

Linux Foundation Announces Open Compliance Program

http://www.linuxpromagazine.com/Online/News/Linux-Foundation-Announces-Open-Compliance-Program

Eclipse SDK 4.0 Now Available

Eclipse has released the software development kit for version 4.0, with the advice that only early adopters should download it.

"The 4.0 release is for early adopters that want to test backwards compatibility and migrate their plug-ins and RCP applications," the Eclipse site notes. Improvements found in Eclipse 4.0 include a model-based interface and a new declarative-based styling mechanism, based on CSS. It's also easier to use discreet application services via the services-oriented programming model. Eclipse 4.0 also features full API binary support for previous platform releases.

Additionally, Eclipse 4.0 features a refreshed workbench layout, simplifying the workspace and reducing clutter. The emphasis on unused tabs has been reduced, and a new global search bar has been incorporated. Views and editors can be mixed and matched and even used in tandem.

Most of the SDK is Java code and is independent of an operating system. Source code is required only to reference library-specific facilities.
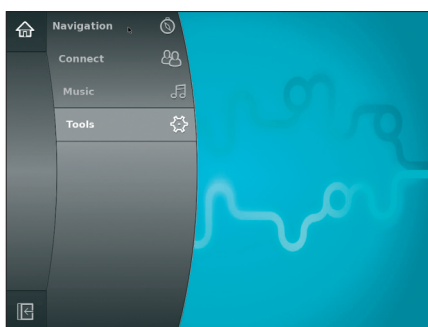
MeeGo to Become Platform for Vehicle Infotainment

GENIVI, the nonprofit industry alliance that was founded by BMW, Delphi, Intel, GM, PSA, Wind River, Magneti-Marelli, and Visteon announced that MeeGo would be the operating platform for the next generation of in-vehicle infotainment (IVI) devices. IVI applications include entertainment services, GPS navigation, and broadband Internet functionality. "We selected MeeGo as the open source basis for our platform because it is technically innovative and can provide the cross-architecture build support we require for our references," said Graham Smethurst, President of GENIVI.

In response, MeeGo announced the release of its In-Vehicle-Infotainment build of the operating system.

The release includes a sample IVI home screen and taskbar, designed with Automotive Center Console HMI requirements in mind. Also included is a sample dialer application and a sample navigation program. Additionally, the UX is built on kernel version 2.6.33 and with a sample UI for managing network connections. The Fennec Browser is the default browser for the IVI.

The release notes are available from: *https://meego.com/downloads/releases/1.0/meego-v1.0-in-vehicle-infotainment-ivi*. Installation instructions can be found at: *https://meego.com/devices/in-vehicle/installing-meego-your-intel-ivi-system*

NEWS BITES

Nexus One Is No More
Earlier this year Google announced that they would be terminating direct sale of the Nexus One through their online store. To be clear, this announcement doesn't mean the end of the Nexus One but rather the end of Google's "buy direct" initiative, which allowed consumers to purchase a Nexus One unlocked or on contract directly through their store.

Developers who need the Nexus One to access the most immediate version of the Android OS (Google issues over-the-air updates to the Nexus One directly) can purchase the phone through the Android Market Publisher page, when logged in as a developer.

OpenGL 4.1 Spec Finalized
The Khronos Group announced the finalization of the OpenGL 4.1 specification. The new API specification is fully backward compatible and adds several new features, including 64-bit floating-point component shader inputs for higher geometric precision and the ability to query and load binary for shader program objects.

Possibly the biggest addition to the royalty-free speculation is full compatibility with OpenGL ES 2.0, making it easier than ever to port graphics between desktop and mobile platforms. OpenGL 4.1 is available for download at *http://www.opengl.org/registry/*.

openSUSE 11.3 Released
openSUSE.org announced the release of openSUSE 11.3. New to the open source operating system is netbook support, in the form of two new netbook desktop environments. KDE's Plasma Netbook Workspace is one environment, and the MeeGo project's MeeGo On openSUSE is the other.

openSUSE can be freely downloaded at *http://software.opensuse.org/*.

Interview:

Chris DiBona

Chris DiBona worked within the open source community years before joining Google. He was writer and editor for Slashdot and the co-editor of essay collections "Open Sources" and "Open Sources 2.0." Now, as the open source and public sector manager at Google, he oversees the company's open source endeavors, supervises the distribution of resources to open source projects, and generally loves what he does. Trevan McGee sat down with Mr. DiBona during OSCON 2010 where they discussed Go, Android, and the future of open source technologies.

Trevan McGee: *What are you up to? What is Google up to?*

Chris DiBona: Well, my role at Google is looking after open source, and that's sort of broadly defined as making sure that open source remains healthy, making sure that it remains as vital resource for us, and looking after open source infrastructure. We do that by both just providing it on *code.google.com*, where we host hundreds of thousands of projects and also by funding groups like the Oregon Open Source Labs, which hosts Mozilla and so many other projects.

We also help pay for things like Kernel.org and their machinery and admin staff, so that projects that matter to us, projects in general, remain quite healthy. That's the infrastructure mission, and then there's releasing code from Google, because we feel that it's nice to be a resourceful friend, but it's better to give code. We have lots of Googlers patching all the time into hundreds of projects. We probably patch 200-300 projects a month now. We release two to five projects a week, and that's not counting large projects like Chrome and Android. We've released more than 20 million lines of code into the outside world, and it's pretty exciting.

The third mission is creating more open source developers, whether by enabling Google engineers to become those people or by creating new ones from scratch with Summer of Code and projects like it. And in that, we also maintain compliance for all of the open source licenses used in the company. Every build, every product. We just make sure that every product is within and respecting those licenses that are so important to us. If you screw that up, everything else is hard to do.

I have a team – folks like Danny Berlin and others who are very, very sharp about these licenses and their implications, and we help out Google.

TM: *When you mentioned allocating resources, whether it's time or money to projects that you think matter, how does Google determine which projects matter? Like the Oregon Open Source Lab for example.*

CD: That's just me and my group, we make those decisions. We look at what needs help and who can invest in it. It's ac-

tually really, really hard to convert money into actual code and actual useful resources within the open source world, so when you find them, like the Oregon Open Source Lab and The Linux Foundation and Kernel.org, it matters. You try to help them out, because they're actually doing important work and they need help to do it. That's strictly financial help and we do that.

As far as like, "How do we encourage Google to open source things," it's part of the product direction. In the case of Android, Chrome, Wave, Chrome OS – those need to be open source to be successful.

The smaller projects: The engineers want to do it, we make it easy for them, so they do it.

As an engineer at Google, you can in about three days get authorization from my group, and thus from legal, trademark, patents and all the rest, and have a piece of software out in three days. If it's ready to go, it's ready to go.

It usually takes the engineers a little bit longer to clean it up to where they want it to be, so that it's buildable outside of Google and all the rest. We have a philosophy of getting out of people's way and keeping people out of your way. We sort of act as your linemen in some ways to keep people out of your way, so that you can release.

The same thing goes with patches. We look at the first couple of patches and what it might do to a project and then we tell them we trust them, so we have people patching into projects all the time. They let us know about it, but we stop being gatekeepers after a little while and, thus, code flows. And it comes very fast so, you know, we've released more than 20 million lines of code; that's more than anyone's done with these kinds of programs, so that's pretty exciting.

I see myself as being actually a very effective bureaucrat, I know that sounds like a strange thing to brag about, but I'm really good at keeping everything moving very smoothly – well oiled machinery for getting code out.

TM: *You mentioned licensing as well, and there was an issue with the WebM license when it was released. Did you and your crew have a hand in that?*

CD: Oh sure. We felt that it would be incompatible with the GPL – it would need some tweaking – but that it was fine to

launch and then do some tweaking. That's what happened. We wanted to articulate to the world that patent policies matter and so we did that. Now we have something that's a little more effective, I think, because it's broadly combinable with GPLV2, V3, and other projects – especially Apache projects.

TM: *Are you concerned about claims from people like Steve Jobs or members of H.264 that WebM is within patent violation?*

CD: I honestly don't care about Steve Jobs' opinion on codecs. I do care about H.264 and the rest, but they have actually not been so bad. Here's the thing: H.264 is a cartel; it's a cartel of a lot of companies, so they have to get through that cartel. They collect usage fees from their partners. There's no reason to think that those are going to stop, first of all. If they feel threatened by WebM, they would have to go to the cartel and say, "What do you think?".
We feel that, first, we're very confident about the state of WebM, but second, we're also very confident that the members of that cartel will see that WebM is a net good for everybody. I actually don't think it's going to hurt them in the slightest, so I'm not worried about it.

TM: *What are some other projects you have coming up or initiatives that you're excited about?*

CD: Too many. You mean actually at Google or in general? [laughs]

TM: *At Google.*

CD: Well, actually the WebM thing is the most important thing we're doing, long term. In the short term, Chrome and Android. Android just blows my mind. If you'd told me we'd be shipping 160,000 phones a day when we started this five years ago, I would just be like, "Yeah, whatever." It's pretty shocking, how successful it's been. It's Android, Android, Android, and then some Chrome. We have Chrome OS officially launching in October and then GoogleTV launching shortly after that, so it's a pretty exciting time for open source at Google. It's part of everything we're doing in our client strategy. It's cool.

TM: *When you joined Google, did you imagine it would be doing phones and TV set-tops?*

CD: No. I didn't. There's no way. I would have thought they were crazy. I still do.
I had been at Google for about a year when we bought Android. It was a very small company of about five people when we bought it and I was like, "We're buying a cell phone operating system company? That's crazy." But they want to be open source, so I'm happy.
And so I got to meet the team, and they were just brilliant. Andy Rubin and Brian and those guys grew that team huge so that they could ship a really good phone, and it's been awesome to watch. Also, if you look at the different spaces

that we operate in – whether it's browsers or phone operating systems and tablet operating systems and web operating systems like Chrome OS – it's like, "wow." It's pretty surprising to do all the things that we're doing. As an open source guy, it's pretty great to see it all come out as open source and not locked up, and I don't think they would have had nearly the reaction if they weren't released as open source.

TM: *You've been involved in open source for a long time now. What's next? What are some of the challenges you see on the horizon?*

CD: When I joined Google I decided, "I've been doing open source for a while; let's see what else is out there." So I sort of helped with the Blogger team and how they interacted with the outside world, and I found out that I really like the open source world.
Blogging was a much bigger representative sample of humanity, so you had all kinds of people. Well, one thing I noticed about open source was that the people generally have these extremely admirable ideas around moving computer science forward, moving each other forward, and sort of having a shared purpose. And that's something I feel is kind of missing normally in the computer business, and it's something I see at Google and it's something I see in open source.
I still see that. I still see people who believe in technology as a way of moving society forward, and I think that's pretty exciting, and I think that open source is sort of the purest substantiation of that. There are always ebbs and flows of different technologies that are always exciting to talk about, whether its CMSes or kernels or database systems or whatever. I think we're going to be in a lull for kernels for a little while before new and interesting things start happening there.
I think we're in a fertile time for databases, but it won't be noticed by the outside world for another couple of years. I think it's a fertile time for planting database seeds. And you're seeing that with Drizzle and the rest, and I think you're going to see the fruits of that probably in a about a year.
CMSes are having a crisis of conscience trying to decide who they want to be. Part of what happens when CMSes get really popular is they build up these huge stables of plugins that are married to specific versions, and then they have trouble moving forward, so what do they do? You're seeing that now with Drupal, and Joomla's been sort of dealing with that too, but they're not as popular, so it's not that hard for them.
WordPress is seeing those kind of pressures, but in a different way. A lot of their customers are very marquee customers, so they're seeing more security attacks; they're seeing that kind of thing. And so they're having to reassess how they do security and plugins. So, you're seeing some anxiety there, but it's really good because we'll come out of it healthier.
It's a very fertile time for languages. I think that Go is great. Being able to help launch that, it's just a huge treat.

Open Source Hardware Defined

Members of the open source hardware community publicly issued a list of standards that define a specific piece of hardware as open source. There are 11 tenets to the open source hardware definition:

1. Documentation – The hardware must be released with documentation including design files, and must allow modification and distribution of the design files. Where documentation is not furnished with the physical product, there must be a well-publicized means of obtaining this documentation for no more than a reasonable reproduction cost, preferably downloading via the Internet without charge. The documentation must include design files in the preferred form for which a hardware developer would modify the design. Deliberately obfuscated design files are not allowed. Intermediate forms analogous to compiled computer code are not allowed as substitutes.
2. Necessary Software – If the hardware requires software, embedded or otherwise, to operate properly and fulfill its essential functions, then the documentation requirement must also include at least one of the following: The necessary software, released under an OSI-ap-

proved open source license, or other sufficient documentation such that it could reasonably be considered straightforward to write open source software that allows the device to operate properly and fulfill its essential functions.
3. Derived Works – The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original hardware. The license must allow for the manufacture, sale, distribution, and use of products created from the design files or derivatives of the design files.
4. Free Redistribution – The license shall not restrict any party from selling or giving away the project documentation as a component of an aggregate distribution containing designs from several different sources. The license shall not require a royalty or other fee for such sale. The license shall not require any royalty or fee related to the sale of derived works.
5. Attribution – The license may require derived works to provide attribution to the original designer when distributing design files, manufactured products, and/or derivatives thereof. The license may also require derived works to carry a different name or version number from the original design.
6. No Discrimination Against Persons or Groups – The license must not discriminate against any person or group of persons.
7. No Discrimination Against Fields of

Endeavor – The license must not restrict anyone from making use of the hardware in a specific field of endeavor. For example, it may not restrict the hardware from being used in a business, or from being used in nuclear research.
8. Distribution of License – The rights attached to the hardware must apply to all to whom the product or documentation is redistributed without the need for execution of an additional license by those parties.
9. License Must Not Be Specific to a Product – The rights attached to the hardware must not depend on the hardware being part of a particular larger product. If the hardware is extracted from that product and used or distributed within the terms of the hardware license, all parties to whom the hardware is redistributed should have the same rights as those that are granted in conjunction with the original distribution.
10. License Must Not Restrict Other Hardware or Software – The license must not place restrictions on other hardware or software that may be distributed or used with the licensed hardware. For example, the license must not insist that all other hardware sold at the same time be open source, nor that only open source software be used in conjunction with the hardware.
11. License Must Be Technology-Neutral – No provision of the license may be predicated on any individual technology or style of interface.

Anyone versed in Creative Commons will find this list familiar.

Rackspace Announces OpenStack

Rackspace announced OpenStack, an open source cloud computing operating system. Rackspace is donating the code behind the cloud files and cloud servers to the project, which has attracted the attention of some major partners, including NASA.
A compute-provisioning engine is slated for later this year. It will incorpo-

rate NASA's Nebula technology and Rackspace's cloud servers. OpenStack Compute and OpenStack Object Storage are both available in developer preview and will be released in mid-October and mid-September, respectively. OpenStack will be available under the Apache 2.0 license. Rackspace president Lew Moorman

said the decision to go open source was made to prevent vendor lock-in.
Rackspace also announced several partners involved in OpenStack, including Citrix, Autonomic Resources, Intel, Dell, and Sonian.

Negroponte Offers to Collaborate on US$ 35 Tablet

Nicholas Negroponte, project founder of One Laptop Per Child, offered to collaborate with India's Ministry of Human Resource Development (MHRD) to realize the country's aspirations for a US$ 35 laptop.

OLPC has had a checkered relationship with the MHRD, which initially rejected the OLPC initiative saying, "It would be impossible to justify an expenditure of this scale on a debatable scheme when public funds continue to be in inadequate supply for well-established needs listed in different policy documents."

Negroponte's offer is being viewed by many as an attempt at collaboration, something OLPC has failed to adopt in the past. Negroponte has said that competition would hurt the OLPC initiative, but he now seems more willing to embrace competitors.

India's laptop is currently unnamed. The device was developed by students and teachers at The Indian Institute of Technology in Kanpur, Mumbai, Chennai, and Kharagpur and the Indian Institute of Science in Bangalore. It features a web browser, a multimedia player, PDF reader, WiFi, and video-conferencing capabilities.

Android Experiences Record Growth

A new report from NPD sees Blackberry dethroned as the most popular commercial mobile operating system for the first time since 2007. The NPD Group, which researches the commercial wireless market, announced the results of its Q2 wireless research, and the clear leader was the Android operating system. According to the research, one in every three commercial smartphones activated in the US last quarter was Android-powered. The top five Android phones purchased were the Motorola Droid, the HTC Droid Incredible, the HTC EVO 4G, the HTC Hero, and the HTC Droid Eris.

Research In Motion's operating system fell to second for the first time since Q4 2007. RIM accounted for 28 percent of commercial smartphones activated in Q2 2010. iOS accounted for 22 percent.

Verizon Wireless maintained its lead in the carrier market with 33 percent, followed by AT&T with 25 percent. Sprint and T-Mobile held 12 percent and 11 percent, respectively. NPD's numbers are based on consumers age 18 and older. The research did not factor in enterprise/corporate purchases.

Meanwhile, international smartphone trend reporting firm Canalys released its Q2 2010 report highlighting the growth of Android compared to the previous year and the continued success of Nokia, though the competition is closing the gap.

From Q2 2009, Android deployments rose worldwide by a staggering 886 percent. Canalys VP and Principal Analyst Chris Jones said that this spike was largely due to carrier promotions and increased adoption by hardware vendors, such as HTC and Motorola.

Gnome 3 Delayed until 2011

If you're looking forward to the next Gnome desktop environment, you'll have to wait until March. Members of the Gnome project gathered at the GUADEC conference in the Netherlands where they announced that Gnome 3 would be delayed until March 2011.

This delays the project by a year, as it's original release was schedule for March 2010. The Gnome project will now issue another incremental update in September.

"Gnome is driven by its goals to provide a quality, free software desktop, and we feel that our users and downstream community are better served by holding the Gnome 3.0 release until March 2011," the Gnome project said via an official statement.

Much progress has been made in the desktop environment. Users can download early versions of the Shell package from Launchpad.

Gnome Census Results

At GUADEC 2010, Neary Consulting revealed the results of its Gnome Census, a report that studies who contributes to the Gnome project. The study found that some 70 percent of contributors are unpaid, but that the majority of paid commits come from paid participants. Seventy percent of contributors work on the project in their spare time, while an additional 20 percent of contributors do so on both a paid and voluntary basis.

The study also looked at commercial developers' contributions to Gnome. In the information collected, Red Hat had the highest percentage of contributions to the project with 16.30 percent. Immediately followed by Novell with 10.44 percent.

The study stated that Red Hat's ranking isn't much of a surprise, considering the company employs 16 of the top 40 Gnome contributors. Red Hat has been key in developing middleware modules.

The report also cautions about the compartmental nature of Gnome development. According to the report, specific companies have carved out areas of Gnome to maintain. From the report: "This compares unfavorably with the Linux kernel, where there are several active maintainers for each subsystem."