Trumpa Debian'o istorija

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Contents

Abstract

Šis dokumentas aprašo Debian'o projekto istoriją ir tikslus.

Chapter 1

Įvadas -- Kas yra Debian'o projektas?

The Debian Project is a worldwide group of volunteers who endeavor to produce an operating system distribution that is composed entirely of free software. The principle product of the project to date is the Debian GNU/Linux software distribution, which includes the Linux operating system kernel, and thousands of prepackaged applications. Various processor types are supported to one extent or another, including 32 and 64 bit x86, ARM, MIPS, PowerPC and IBM S/390.

Debian motivated the formation of Software in the Public Interest, Inc., a New York-based non-profit organization. SPI was founded to help Debian and other similar organizations develop and distribute open hardware and software. Among other things, SPI provides a mechanism by which The Debian Project may accept contributions that are tax deductible in the United States.

For more information about free software, see the Debian Social Contract and associated Debian Free Software Guidelines, or the Debian What Does Free Mean? page.

1.1 Pradžia

The Debian Project was officially founded by Ian Murdock on August 16th, 1993. (There is also a scanned printout of that announcement.) At that time, the whole concept of a "distribution" of Linux was new. Ian intended Debian to be a distribution which would be made openly, in the spirit of Linux and GNU (read his manifesto provided as an appendix to this document for more details). The creation of Debian was sponsored by the FSF's GNU project for one year (November 1994 to November 1995).

Debian'ą buvo numatoma kruopščiai ir sąžiningai surinkti į vieną visumą, ir nemažiau atidžiai prižiūrėti bei palaikyti. Jis pradėtas mažos, glaudžiai susimezgusios laisvos programinės įrangos programišių (hackers) grupės, ir palaipsniui išaugo ir tapo didele, gerai organizuota kūrėjų ir naudotojų bendruomene.

Kuomet jis buvo pradėtas, Debian'as buvo vienintelis distributyvas, atviras kiekvienam kūrėjui ir naudotojui, norinčiam padėti atliekant šį darbą. Jis iki šio lieka pačiu svarbiausiu nekomerciniu Linux distributyvo tiekėju. Tai vienintelis didelis projektas, turintis savo konstitucijos, visuomeninio kontrakto ir savo taisyklių (policy) dokumentus, skirtus projekto darbo organizavimui. Debian'as taip pat yra vienintelis distributyvas, kuris supakuotas į „mikro paketus"naudojantis detalia savitarpio priklausomybių tarp paketų informacija, siekiant užtikrinti sistemos vientisumą atliekant paketų atnaujinimus.

Kad būtų pasiektas ir palaikomas aukštas kokybės standartas, Debian'as apima platų rinkinį taisyklių ir procedūrų, skirtų programinės įrangos paketų ruošimui ir platinimui. Šie standartai yra paremti įrankiais, automatizavimu ir dokumentacija, realizuojančiais visus Debian'o esminius elementus atviru ir matomu būdu.

1.2 Debian'o tarimas

Angliškai Debian'o tarimas pateikiamas taip - 'deb ee n'. Šis vardas kilęs iš Debian'o įkūrėjo Iano ir jo žmonos Debros vardų.

Chapter 2

Vadovavimas

Nuo 1993 metų Debian'as turėjo keletą lyderių.

1993 m. rugpjūčio mėn. Ianas Murdockas įkūrė Debian'ą ir vadovavo jam iki 1996 m. kovo mėnesio.

Bruce Perens vadovavo Debian'ui nuo 1996 m. balandžio iki 1997 m. gruodžio.

Ian Jackson vadovavo Debian'ui nuo 1998 m. sausio iki 1998 m. gruodžio.

Wichert Akkerman vadovavo Debian'ui nuo 1999 m. sausio iki 2001 m. kovo.

Ben Collins vadovavo Debian'ui nuo 2001 m. balandžio iki 2002 m. balandžio.

Bdale Garbee vadovavo Debian'ui nuo 2002 m. balandžio iki 2003 m. balandžio.

Martin Michlmayr vadovavo Debian'ui nuo 2003 m. kovo iki 2005 m. kovo.

Branden Robinson vadovavo Debian'ui nuo 2005 m. balandžio iki 2006 m. balandžio.

Anthony Towns vadovavo Debian'ui nuo 2006 m. balandžio iki 2007 m. balandžio.

Sam Hocevar vadovavo Debian'ui nuo 2007 m. balandžio iki 2008 m. balandžio.

Steve McIntyre vadovavo Debian'ui nuo 2008 m. balandžio iki 2010 m. balandžio.

Stefano Zacchiroli vadovavo Debian'ui nuo 2010 m. balandžio iki 2013 m. balandžio.

Lucas Nussbaum vadovavo Debian'ui nuo 2013 m. balandžio iki 2015 m. balandžio.

Neil McGovern vadovavo Debian'ui nuo 2015 m. balandžio iki 2016 m. balandžio.

Mehdi Dogguy led Debian from April 2016 until April 2017.

Chris Lamb led Debian from April 2017 until April 2019.

Sam Hartman led Debian from April 2019 until April 2020.

Jonathan Carter led Debian from April 2020 until April 2024.

Andreas Tille was elected in April 2024 and is our current leader.

Chapter 3

Debian'o laidos

Debian nuo 0.01 iki versijos 0.90 (1993 m. rugpjūtis-gruodis).

Debian 0.91 (1994 m. sausis): Ši laida turėjo paprastą paketų sistemą, kuri leido įdiegti ir pašalinti paketus. Tuo metu projektas išaugo iki kelių tuzinų žmonių.

Debian 0.93R5 (1995 m. kovas): Tuo metu atsakomybė už kiekvieną paketą buvo aiškiai priskirta konkrečiam vykdytojui (developer), o po to, kai bazinė sistema būdavo įdiegta, paketų įdiegimui buvo naudojama paketų tvarkyklė (**dpkg**).

Debian 0.93R6 (1995 m. lapkritis): Atsirado **dselect**. Tai buvo paskutinioji Debian'o laida, naudojanti a.out binarinį formatą; tuomet buvo apie 60 kūrėjų (developers). Kartu su 0.93R6 laida, Bdale Garbee paleido veikti pirmą master.debian.org serverį, kuris glaudėsi pas HP. Atviro ir aiškaus pagrindinio serverio panaudojimas, kuriame Debian'o kūrėjai konstruotų kiekvieną distributyvo laidą, tiesiogiai įtakojo Debian'o „veidrodžių"tinklo formavimąsi, ir netiesiogiai daugelio taisyklių (policies) ir procedūrų sukūrimą, naudojamų projekto tvarkymui šiandien.

Debian 1.0 was never released: InfoMagic, a CD vendor, accidentally shipped a development release of Debian and entitled it 1.0. On December 11th 1995, Debian and InfoMagic jointly announced that this release was screwed. Bruce Perens explains that the data placed on the "InfoMagic Linux Developer's Resource 5-CD Set November 1995" as "Debian 1.0" is not the Debian 1.0 release, but an early development version which is only partially in the ELF format, will probably not boot or run correctly, and does not represent the quality of a released Debian system. To prevent confusion between the premature CD version and the actual Debian release, the Debian Project has renamed its next release to "Debian 1.1". The premature Debian 1.0 on CD is deprecated and should not be used.

The hosting of master.debian.org moved from HP to i-Connect.Net around the end of 1995. Michael Neuffer and Shimon Shapiro, founders of i-Connect.Net, hosted master on their own hardware for a little more than a year. During this time, they provided many services to Debian, including running what was essentially the New Maintainer process of the day, and significantly aiding the growth of the early Debian mirror network.

Debian 1.1 *Buzz* (June 17th, 1996): This was the first Debian release with a code name. It was taken, like all others so far, from a character in one of the *Toy Story* movies... in this case, Buzz Lightyear. By this time, Bruce Perens had taken over leadership of the Project from Ian Murdock, and Bruce was working at Pixar, the company that produced the movies. This release was fully ELF, used Linux kernel 2.0, and contained 474 packages.

Debian 1.2 *Rex* (December 12th, 1996): Named for the plastic dinosaur in the *Toy Story* movies. This release consisted of 848 packages maintained by 120 developers

Debian 1.3 *Bo* (1997 m. birželio 5 d.): Pavadinta piemenaitės Bo Peep vardu. Ši laida sudaryta iš 974 paketų, prižiūrimų 200 kūrėjų.

Debian 2.0 *Hamm* (July 24th, 1998): Named for the piggy-bank in the *Toy Story* movies. This was the first multi-architecture release of Debian, adding support for the Motorola 68000 series architectures. With Ian Jackson as Project Leader, this release made the transition to libc6, and consisted of over 1500 packages maintained by over 400 developers.

Debian 2.1 *Slink* (March 9th, 1999): Named for the slinky-dog in the movie. Two more architectures were added, Alpha and SPARC. With Wichert Akkerman as Project Leader, this release consisted of about 2250 packages and required 2 CDs in the official set. The key technical innovation was the introduction of apt, a new package management interface. Widely emulated,

apt addressed issues resulting from Debian's continuing growth, and established a new paradigm for package acquisition and installation on Open Source operating systems.

Debian 2.2 *Potato* (15 August 2000): Named for "Mr Potato Head" in the *Toy Story* movies. This release added support for the PowerPC and ARM architectures. With Wichert still serving as Project Leader, this release consisted of more than 3900 binary packages derived from over 2600 source packages maintained by more than 450 Debian developers.

Debian 3.0 *Woody* (19 July 2002): Named for the main character the *Toy Story* movies: "Woody" the cowboy. Even more architectures were added in this release: IA-64, HP PA-RISC, MIPS (big endian), MIPS (little endian) and S/390. This is also the first release to include cryptographic software due to the restrictions for exportation being *lightened* in the US, and also the first one to include KDE, now that the license issues with Qt were resolved. With Bdale Garbee recently appointed Project Leader, and more than 900 Debian developers, this release contained around 8,500 binary packages and 7 binary CDs in the official set.

Debian 3.1 *Sarge* (6 June 2005): named for the sergeant of the Green Plastic Army Men. No new architectures were added to the release, although an unofficial AMD64 port was published at the same time and distributed through the new Alioth project hosting site. This release features a new installer: *debian-installer*, a modular piece of software that feature automatic hardware detection, unattended installation features and was released fully translated to over thirty languages. It was also the first release to include a full office suite: OpenOffice.org. Branden Robinson had just been appointed as Project Leader. This release was made by more than nine hundred Debian developers, and contained around 15,400 binary packages and 14 binary CDs in the official set.

Debian 4.0 *Etch* (8 April 2007): named for the sketch toy in the movie. One architecture was added in this release: AMD64, and official support for m68k was dropped. This release continued using the *debian-installer*, but featuring in this release a graphical installer, cryptographic verification of downloaded packages, more flexible partitioning (with support for encrypted partitions), simplified mail configuration, a more flexible desktop selection, simplified but improved localization and new modes, including a *rescue* mode. New installations would not need to reboot through the installation process as the previous two phases of installation were now integrated. This new installer provided support for scripts using composed characters and complex languages in its graphical version, increasing the number of available translations to over fifty. Sam Hocevar was appointed Project Leader the very same day, and the project included more than one thousand and thirty Debian developers. The release contained around 18,000 binary packages over 20 binary CDs (3 DVDs) in the official set. There were also two binary CDs available to install the system with alternate desktop environments different to the default one.

Debian 5.0 *Lenny* (February 2009): named for the wind up binoculars in the *Toy Story* movies. One architecture was added in this release: ARM EABI (or *armel*), providing support for newer ARM processors and deprecating the old ARM port (*arm*). The m68k port was not included in this release, although it was still provided in the *unstable* distribution. This release did not feature the FreeBSD port, although much work on the port had been done to make it qualify it did not meet yet the qualification requirements for this release.

Support of small factor devices in this release was increased by the added support for Marvell's Orion platform which was used in many storage devices and also provided supported several Netbooks. Some new build tools were added which allowed Debian packages to be cross-built and shrunk for embedded ARM systems. Also, netbooks of varied vendors were now supported and the distribution provided software more suitable for computers with relatively low performance.

It was also the first release to provide free versions of Sun's Java technology, making it possible to provide Java applications in the *main* section.

Debian 6.0 *Squeeze* (February 2011): named for the green three-eyed aliens.

The release was frozen on August 6, 2010, with many of the Debian developers gathered at the 10th DebConf at New York City.

While two architectures (alpha and hppa) were dropped, two architectures of the new FreeBSD port (kfreebsd-i386 and kfreebsd-amd64) were made available as *technology preview*, including the kernel and userland tools as well as common server software (though not advanced desktop features yet). This was the first time a Linux distribution has been extended to also allow use of a non-Linux kernel.

The new release introduced a dependency based boot sequence, which allowed for parallel init script processing, speeding system startup.

Debian 6 was the first release that benefited from Long Term Support (LTS), a project to extend the lifetime of all Debian stable releases to (at least) 5 years. Debian LTS was not handled by the Debian Security team, but by a separate group of volunteers and companies interested in making it a success. Debian 6 was supported until the end of February 2016, and limited to i386 and amd64 architectures.

Debian 7.0 *Wheezy* (May 2013): named for the rubber toy penguin with a red bow tie.

The release was frozen on June 30, 2012, very close to the Debian developers gathering in the 12th DebConf at Managua, Nicaragua.

One architecture was included in this release (armhf) and this release introduced multi-arch support, which allowed users to install packages from multiple architectures on the same machine. Improvements in the installation process allowed visually impaired people to install the system using software speech for the first time.

This was also the first release that supported the installation and booting in devices using UEFI firmware.

Debian 7 had Long Term Support (LTS) for i386, amd64, armel and armhf architectures until the end of May 2018.

Debian 8 *Jessie* (April 2015): named for the cow girl doll who first appeared in Toy Story 2.

This release introduced for the first time the systemd init system as default. Two new architectures were introduced: arm64 and ppc64el and three architectures were dropped: s390 (replaced by s390x), ia64 and sparc. The Sparc architecture had been present in Debian for 16 years, but lacked developer support to make it maintainable in the distribution.

The release included many security improvements such as a new kernel that nullified a whole set of security vulnerabilities (symlink attacks), a new way to detect packages which were under security support, more packages built with hardened compiler flags and a new mechanism (needrestart) to detect sub-systems which had to be restarted in order to propagate security updates after an upgrade.

Debian 8 had Long Term Support (LTS) for i386, amd64, armel and armhf architectures until the end of June 2020.

Debian 9 *Stretch* (June 2017): named for the toy rubber octopus with suckers on her eight long arms that appeared in Toy Story 3.

The release was frozen on February 7th, 2017.

Debian 9 was dedicated to the project's founder Ian Murdock, who passed away on 28 December 2015.

Support for the powerpc architecture was dropped in this release, whileas the mips64el architecture was introduced. This release introduced debug packages with a new repository in the archive, packages from this repository provided debug symbols automatically for packages. Firefox and Thunderbird returned to Debian, replacing their debranded versions Iceweasel and Icedove, which were present in the archive for more than 10 years. Thanks to the Reproducible Builds project, over 90% of the source packages included in Debian 9 were able to build bit-for-bit identical binary packages.

Debian 9 had Long Term Support (LTS) for i386, amd64, armel and armhf architectures until the end of June 2022.

Debian 10 *Buster* (July 2019): named for Andy's pet dog, received as Christmas present in the end of Toy Story.

With this release Debian for the first time included a mandatory access control framework enabled per default (AppArmor). It was also the first Debian release to ship with Rust based programs such as Firefox, ripgrep, fd, exa, etc. and a significant number of Rust based libraries (more than 450). In Debian 10 GNOME defaults to using the Wayland display server instead of Xorg, providing a simpler and more modern design and advantages for security. The UEFI ("Unified Extensible Firmware Interface") support first introduced in Debian 7 continued to be greatly improved in Debian 10, being included for amd64, i386 and arm64 architectures and working out of the box on most Secure Boot-enabled machines.

Debian 10 had Long Term Support (LTS) for i386, amd64, armel and armhf architectures until the end of June 2024.

Debian 11 *Bullseye* (August 14th, 2021): named for Woody's wooden toyhorse that appeared in Toy Story 2.

This release contained over 11,294 new packages for a total count of 59,551 packages, along with a significant reduction of over 9,519 packages which were marked as "obsolete" and removed. 42,821 packages were updated and 5,434 packages remained unchanged.

Debian 11 allowed driverless printing and scanning without the need for vendor specific (often non-free) drivers, and shipped a Linux kernel with support for the exFAT filesystem. The mips architecture support was dropped, keeping support for mipsel (little-endian) architectures for 32-bit hardware and mips64el architecture for 64-bit little-endian hardware.

The Debian Med team took part in the fight against COVID-19 by packaging software for researching the virus on the sequence level and for fighting the pandemic with the tools used in epidemiology; this work continued with focus on machine learning tools for both fields.

Debian 12 *Bookworm* (June 10th, 2023): named for a green toy worm with a built-in flashlight that appeared in Toy Story 3.

This release contained over 11,089 new packages for a total count of 64,419 packages, while over 6,296 packages have been removed as "obsolete". 43,254 packages were updated in this release. The overall disk usage for *bookworm* is 365,016,420 kB (365 GB), and is made up of 1,341,564,204 lines of code.

Following the 2022 General Resolution about non-free firmware, the Debian Social Contract got adjusted and a new archive area called *non-free-firmware* got introduced, making it possible to separate non-free firmware from the other non-free packages. Most non-free firmware packages have been moved from *non-free* to *non-free-firmware*. This separation makes it possible to build a variety of official installation images. And it makes installing Debian on popular hardware using the official Debian installer much easier.

A total of nine architectures are officially supported for *bookworm*.

The Debian Cloud team publishes *bookworm* for three popular cloud computing services.

Between releases, in Bug#978636 (Feb 2021), the Technical Committee resolved that Debian *bookworm* would support only the merged-usr[1] root filesystem layout, dropping support for the non-merged-usr layout. For systems installed as *buster* or *bullseye* there would be no changes to the filesystem; however, systems using the older layout would be converted during the upgrade.

Thanks to the combined work of the Debian Security team and the Debian Long Term Support team, *bookworm* will be supported on four architectures until June 2028 (5 years after release).

Debian 13 *Trixie* (as of August 2024 the *testing* distribution): Trixie is a blue toy Triceratops that appeared in Toy Story 3.

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[1]usr-merge (or merged-usr or `/usr`-move) is a filesystem layout where the traditional unix directories `/bin`, `/sbin`, `/lib` and `/lib64` are replaced by symbolic links to their counterparts under `/usr`. So e.g. `/bin` is replaced by a symlink to `/usr/bin`. In 2012, usr-merge was implemented by Fedora Linux as well as by Ubuntu Linux. See also The Case For The Usr Merge and the Bookworm Release Notes.

Chapter 4

Detali istorija

4.1 Laidos 0.x

Debian was begun in August 1993 by Ian Murdock, then an undergraduate at Purdue University. Debian was sponsored by the GNU Project of The Free Software Foundation, the organization started by Richard Stallman and associated with the General Public License (GPL), for one year -- from November 1994 to November 1995.

Laikotarpyje nuo 1993 m. rugpjūčio iki gruodžio buvo išleistos laidos nuo Debian 0.01 iki Debian 0.90. Ianas Murdockas rašė:

„Debian 0.91 laida buvo išleista 1994 m. sausio mėnesyje. Ji turėjo primityvią paketų sistemą, kuri leido naudotojams manipuliuoti paketais, bet ne daugiau (žinoma, neturėjo paketų priklausomybių ir panašių dalykų). Tuo metu prie Debian'o dirbo keli tuzinai žmonių, tačiau šią laidą į vieną visumą daugiausiai sudėjau aš pats. 0.91 laida buvo paskutinioji, atlikta tokiu būdu.

1994 metai pagrinde buvo išnaudoti Debian'o projekto perorganizavimui taip, kad kiti galėtų efektyviau padėti projektui, bei programos **dpkg** kūrimui (už tai didžia dalimi buvo atsakingas Ianas Jacksonas). Kiek aš pamenu, 1994 metais mes neišleidome viešų laidų, tačiau tam, kad nukreiptumėme procesą teisinga linkme, išleidome keletą vidinių laidų.

Debian 0.93 5-tos laidos išleidimas įvyko 1995 m. kovo men., ir tai buvo pirma „moderni"Debian'o laida: dalyvavo daug daugiau kūrėjų (tačiau nepamenu tiksliai, kiek), kiekvienas prižiūrėjo savo paketus, ir **dpkg** buvo naudojamas visų šių paketų įdiegimui ir tvarkymui, po to, kai bazinė sistema būdavo įdiegta.

Debian 0.93 Release 6 happened in November 1995 and was the last a.out release. There were about sixty developers maintaining packages in 0.93R6. If I remember correctly, **dselect** first appeared in 0.93R6."

Ianas Murdockas taip pat pažymėjo, kad Debian 0.93R6 „... visuomet buvo mano mėgiamiausia Debian'o laida", nors jis spėja, kad tai galbūt dėl jo galimybės turėti asmeninę įtaka, kadangi 1996 m. kovo mėn. jis nustojo aktyviai dirbti projekte. Tuo metu buvo ruošiamasi Debian 1.0 laidos išleidimui, kuri iš tikrųjų buvo išleista kaip Debian 1.1 laida, tam kad būtų išvengta nesusipratimų po to, kai CD-ROM gamintojas klaidingai pažymėjo dar neišleistą versiją kaip Debian 1.0. Šis incidentas įvedė „oficialių"CD-ROM'ų sąvoką, kaip projekto būdą padėti prekiautojams išvengti šios rūšies klaidų.

1995 m. rugpjūtyje (tarp Debian 0.93R5 ir Debian 0.93R6 laidų), Hartmut Koptein pradėjo pirmąjį Debiana'o pritaikymą (port) Motorola m68k šeimai. Jis pranešė, kad „Daug, daug paketų buvo i386-orientuotų (little endian, -m486, -O6 ir viskas libc4 bibliotekai), ir tai buvo sunkus laikas ruošiant paradinę paketų bazę mano kompiuteryje (Atari Medusa 68040, 32 MHz). Po trijų mėnesių (1995 m. lapkrityje) aš įkėliau į archyvą 200 paketų iš 250 galimų, ir visi jie libc5 bibliotekai!". Veliau jis, kartu su Vincent Renardias ir Martin Schulze pradėjo kitą pritaikymą, skirtą PowerPC šeimai.

Since this time, the Debian Project has grown to include several ports to other architectures, a port to a new (non-Linux) kernel, the GNU Hurd microkernel, and at least one flavor of BSD kernel.

To laikotarpio projekto narys Bill Mitchell, atsimena apie Linux branduolį

„... mes pradėjome dirbti tarp 0.99r8 ir 0.99r15 laidų. Ilgą laiką aš galėjau sukompiliuoti branduolį greičiau nei per 30 minučių ant 20 MHz 386 procesoriaus mašinos, ir taip pat galėjau įdiegti Debian'ą per tokį patį laiko tarpą į 10Mb disko vietos.

„... Aš prisimenu pradinę kūrėjų grupę, įskaitant Ianą Murdocką, mane patį, kitą Ianą, kurio pavardės neatmenu, Daną Quinlaną, ir dar keletą kitų žmonių, kurių vardų neatsimenu. Mattas Welshas buvo arba pradinės grupės narys, arba prisijungė prie jos gana anksti (jis palikęs projektą nuo to laiko). Kažkas suderino pašto konferenciją (mailing list) ir mes pradėjome veikti.

Kiek aš pamenu, mes nepradėjome nuo kažkokio plano, ir nepradėjome labai organizuotai sudarinėti bendro plano. Pačioje pradžioje, kiek pamenu, mes pradėjome rinkti gana atsitiktinį išeities tekstų paketų rinkinį. Po kurio laiko, mes sutelkėme dėmesį į dalykus, kurie kartu turėtų įeiti į distributyvo pagrindą: branduolį, apvalkalą (shell), update, getty, įvairias kitas programas ir failus, reikiamus sistemos paleidimui, ir į svarbiausių pagalbinių programų (utilities) rinkinį."

4.2   Ankstyvoji Debian'o paketų sistema

Ankstyvojoje projekto stadijoje jo nariai nusprendė platinti tik išeities tekstų paketus. Kiekvienas paketas turėtų būti sudarytas iš pagrindinių autorių (upstream) išeities teksto ir debianizuoto patch failo, o naudotojas turėtų išarchyvuoti išeities tekstus, pritaikyti patch failus ir pats susikompiliuoti binarinius failus. Tačiau greitai jie suprato, kad tam tikra binarinių failų platinimo schema turėtų būti reikalinga. Ankstyviausias paketų įrankis, parašytas Iano Murdocko, ir pavadintas **dpkg**, sukūręs Debian'ui specifinį binarinių paketų formatą, ir šis įrankis galėjo būti naudojamas paketų išpakavimui ir jo failų įdiegimui.

Netrukus Ianas Jacksonas perėmė paketų įrankio kūrimą, pervadino jį **dpkg-deb** vardu, o jo naudojimo palengvinimui parašė front-end programą pavadindamas ją **dpkg**. Šis įrankis suteikė tokias šiandieninio Debian'o sistemos savybes, kaip *priklausomybės (Dependencies)* ir *konfliktai (Conflicts)*. Šių įrankių sukurti paketai turėjo antraštę (header), kurioje buvo nurodyta paketą sukūrusio įrankio versija bei poslinkis iki tar programa sukurto archyvo, atskirto nuo antraštės tam tikra valdymo informacija.

Tuo metu tarp projekto narių užsimezgė diskusija -- kai kurie manė, kad specialaus Debian'o formato, sukurto su **dpkg-deb**, turėtų būti atsisakyta, ir reikėtų naudoti formatą sukuriamą programos **ar** pagalba. Po keleto peržiūrėtų failų formatų ir peržiūrėtų atitinkamų paketų tvarkymo įrankių, buvo pasirinktas **ar** formatas. Šio pakeitimo esminė vertybė ta, kad Debian'o paketą galima išpakuoti bet kurioje Unix tipo sistemoje, nenaudojant nepatikimų programų. Kitais žodžiais tariant, tik standartiniai įrankiai, egzistuojantys bet kurioje Unix sistemoje, tokie kaip 'ar' ir 'tar', yra reikalingi Debian'o paketo išpakavimui ir jo turinio analizei.

4.3   Laidos 1.x

Kuomet Ianas Murdockas paliko Debian'ą, jis paskyrė Bruce Perens sekančiu projekto vadovu. Pirmiausia Bruce susidomėjo Debian'u, kuomet jis bandė sukurti Linux distributyvo CD, vadinamą "Linux for Hams", kuris turėtų visą Linux programinę įrangą naudingą radijo mėgėjų sporto operatoriams. Supratęs, kad šiam sumanymui įgyvendinti teks įdėti daug darbo tobulinant Debian'o bazinę sistemos dalį, Bruce atidėjo savo sumanymą ir aktyviai ėmėsi dirbti prie bazinės sistemos dalies ir atitinkamų įdiegimo įrankių, įskaitant ir pirmąjį Debian'o įdiegimo scenarijų (scripts) rinkinį (kartu su Ianu Murdocku), galų gale tapusiu tuo, ką mes šiandien vadiname Debian'o atstatymo diskeliu (Debian Rescue Floppy), kuris keletui Debian'o laidų buvo esminiu įdiegimo įrankių rinkinio komponentu.

Ianas Murdockas pareiškė:

„Bruce pasirinkimas mano įpėdiniu buvo natūralus, kadangi jis beveik metus laiko prižiūrėjo sistemos bazinę dalį, ir užpildydavo visas spragas tuo metu, kai aš galėjau skirti Debian'ui vis mažiau laiko."

He initiated several important facets of the project, including coordinating the effort to produce the Debian Free Software Guidelines and the Debian Social Contract, and initiating an Open Hardware Project. During his time as Project Leader, Debian gained market share and a reputation as a platform for serious, technically-capable Linux users.

Bruce Perens also spearheaded the effort to create Software in the Public Interest, Inc.. Originally intended to provide the Debian Project with a legal entity capable of accepting donations, its aims quickly expanded to include supporting free software projects outside the Debian Project.

Šiuo laikotarpiu buvo išleistos tokios Debian'o versijos:

• 1.1 *Buzz* išleista 1996 m. birželyje (474 paketai, 2.0 branduolys, pilnai ELF, **dpkg**)

• 1.2 *Rex* išleista 1996 m. gruodyje (848 paketai, 120 kūrėjų)

• 1.3 *Bo* išleista 1997 m. liepos mėnesyje (974 paketai, 200 kūrėjų)

Po 1.3 laidos buvo išleistos kelios tarpinės laidos, iš kurių paskutinioji buvo 1.3.1R6.

1998 m. sausyje Debian'o lyderio poste Bruce Perens pakeitė Ianas Jacksonas, kuris vadovavo projektui 2.0 laidos ruošimo laikotarpiu.

4.4 Laidos 2.x

Ianas Jacksonas tapo Debian'o projekto vadovu 1998 m. pradžioje, ir greitai po to buvo įtrauktas į organizacijos Software in the Public Interest komitetą, viceprezidento pareigose. Atleidus iždininką (Tim Sailer), prezidentą (Bruce Perens) ir sekretorių (Ian Murdock), jis tapo komiteto prezidentu, ir kartu buvo pasirinkti trys nauji nariai: Martin Schulze (viceprezidentas), Dale Scheetz (sekretorius) ir Nils Lohner (iždininkas).

Debian 2.0 (*Hamm*) laida išleista 1998 m. liepos mėnesyje. Intel i386 ir Motorola 68000 serijos architektūroms. Ši laida pažymėta perėjimu prie naujos C bibliotekų sistemos versijos (glibc2 arba istoriniais sumetimais - libc6). Laidos išleidimo metu projekte buvo virš 1500 paketų, prižiūrimų daugiau nei 400 Debian'o kūrėjų.

Wichert Akkerman succeeded Ian Jackson as Debian Project Leader in January of 1999. Debian 2.1 was released on 09 March, 1999, after being delayed by a week when a few last-minute issues arose.

Debian 2.1 (*Slink*) featured official support for two new architectures: Alpha and Sparc. The X-Windows packages included with Debian 2.1 were greatly reorganized from previous releases, and 2.1 included **apt**, the next-generation Debian package manager interface. Also, this release of Debian was the first to require 2 CD-ROMs for the "Official Debian CD set"; the distribution included about 2250 packages.

On 21 April 1999, Corel Corporation and the K Desktop Project effectively formed an alliance with Debian when Corel announced its intentions to release a Linux distribution based on Debian and the desktop environment produced by the KDE group. During the following spring and summer months, another Debian-based distribution, Storm Linux, appeared, and the Debian Project chose a new logo, featuring both an Official version for use on Debian-sanctioned materials such as CD-ROMs and official Project web sites, and an Unofficial logo for use on material mentioning or derived from Debian.

A new, unique, Debian port also began at this time, for the Hurd port. This is the first port to use a non-Linux kernel, instead using the GNU Hurd, a version of the GNU Mach microkernel.

Debian developers joined formally for the first time in an annual meeting called DebConf. The first meeting, called Debconf0, took place in Bordeaux, France from the 5th to the 9th of July 2000. The conference aim was to join developers and advanced users in a single place to talk about Debian and work together developing parts of the distribution.

Debian 2.2 (*Potato*) laida išleista 2000 m. rugpjūčio mėn. 15 d. Intel i386, Motorola 68000 serijos, alpha, SUN Sparc, PowerPC ir ARM architektūroms. Tai buvo pirmoji laida turinti PowerPC ir ARM pritaikymus. Išleidimo metu buvo virš 3900 binarinių paketų ir virš 2600 išeities tekstų paketų, prižiūrimų daugiau nei 450-ties Debian'o kūrėjų.

An interesting fact about Debian 2.2 is that it showed how a free software effort could lead to a modern operating system despite all the issues around it. This was studied thoroughly by a group of interested people in an article called Counting potatoes: The size of Debian 2.2, by Jesús González Barahona, quoting from this article:

„[...] mes naudojam A. Wheeler'io sloccount sistemą Debian'o 2.2 (aka potato) išeities teksto fiziniam eilučių (source lines of code (SLOC)) skaičiui nustatyti. Mes rodome, kad Debian'as 2.2 apima virš 55,000,000 fizinių SLOC (beveik dvigubai daugiau, nei Red Hat 7.1, išleistas apie 8-nis mėnesius vėliau), tuo parodydami, kad Debian'o kūrimo modelis (paremtas didelės grupės savanorišku kūrėjų, pasklidusių po visą pasaulį, darbu) yra ne mažiau veiksnus, nei kiti kūrimo modeliai [...] Tai taip pat rodo, kad jei Debian'as naudotų tradicinius nuosavybinius metodus, COCOMO modelio apskaičiavimais, Debian'o 2.2 kūrimas kainuotų netoli 1.9 milijardų JAV dolerių. Šalia to, mes siūlome distributyve naudojamų programavimo kalbų (C kiekis sudaro apie 70%, C++ apie 10%, LISP ir Shell apie 5%, ir toliau seka daug kitų) ir didžiausių paketų (Mozilla, Linux branduolys, PM3, XFree86, ir t.t.) analizę."*

4.5 Laidos 3.x

Before woody could even begin to be prepared for release, a change to the archive system on ftp-master had to be made. Package pools, which enabled special purpose distributions, such as the new "Testing" distribution used for the first time to get woody ready for release, were activated on ftp-master in mid December 2000. A package pool is just a collection of different versions of a given package, from which multiple distributions (currently experimental, unstable, testing, and stable) can draw packages, which are then included in that distribution's Packages file.

Tuo pačiu metu buvo įvestas naujas *testing* distributyvas. Pagrindinai paketai iš unstable, kurie laikomi jau stabiliais, perkeliami į testing šaką (po kelių savaičių periodo). Šio įvedimo tikslas buvo sumažinti sustabdymo (freeze) laiką ir suteikti projektui galimybę ruošti naują laidą bet kuriuo metu.

Tuo metu kai kurios kompanijos, platinančios modifikuotą Debian'o versiją, užsidarė. Corel pardavė savo Linux skyrių 2001 m. pirmame ketvirtyje, Stormix paskelbė apie bankrotą 2001 m. sausio 17 d., o Progeny liovėsi kurti savo distributyvą 2001 m. spalio mėn. 1d.

The freeze for the next release started on July 1st 2001. However, it took the project a little more than a year to get to the next release, due to problems in boot-floppies, because of the introduction of cryptographic software in the main archive and due to the changes in the underlying architecture (the incoming archive and the security architecture). In that time, however, the stable release (Debian 2.2) was revised up to seven times, and two Project Leaders were elected: Ben Collins (in 2001) and Bdale Garbee. Also, work in many areas of Debian besides packaging kept growing, including internationalization, Debian's web site (over a thousand web pages) was translated into over 20 different languages, and installation for the next release was ready in 23 languages. Two internal projects: Debian Junior (for children) and Debian Med (for medical practice and research) started during the woody release time frame providing the project with different focuses to make Debian suitable for those tasks.

The work around Debian didn't stop the developers from joining the annual DebConf meeting. The second meeting Debconf1 was held from the 2nd to the 5th of July together with the Libre Software Meeting (LSM) at Bordeaux (France) gathered around forty Debian developers. The third conference, Debconf2 took place in Toronto (Canada) July 5th 2002 with over eighty participants.

Debian 3.0 (*woody*) laida išleista 2002 m. liepos mėn. 19 d. Intel i386, Motorola 68000 serjos, alpha, SUN Sparc, PowerPC, ARM, HP PA-RISC, IA-64, MIPS, MIPS (DEC) ir IBM s/390 architektūroms. Tai pirmoji laida turinti HP PA-RISC, IA-64, MIPS, MIPS (DEC) ir IBM s/390 pritaikymus. Išleidimo metu buvo apie 8500 binarinių paketų, prižiūrimų daugiau virš devynių šimtų Debian'o kūrėjų. Ji tapo pirmąja laida platinama ne tik CD-ROM laikmenose, bet ir DVD informacijos nešėjais.

Before the next release the *DebConf* annual meeting continued with the fourth conference, DebConf3 taking place in Oslo from July 18th to July 20th 2003 with over one hundred and twenty participants, with a *DebCamp* preceding it, from July 12th to July 17th. The fifth conference, DebConf4, took place from May 26th to June 2nd 2004 in Porto Alegre, Brazil with over one hundred and sixty participants from twenty six different countries.

Debian 3.1 (*sarge*) was released June 6th, 2005 for the same architectures as *woody*, although an unofficial AMD64 port was released at the same time using the project hosting infrastructure provided for the distribution and available at Alioth (formerly at https://alioth.debian.org). There were around 15,000 binary packages maintained by more than nine hundred Debian developers.

Šioje *sarge* laidoje buvo daug svarbių pakeitimų, ir tai buvo pagrindinė priežastis, kodėl taip ilgai truko distributyvo „užšaldymas"ir išleidimas. Šioje laidoje buvo atnaujinta ne tik virš 73% programinės įrangos, tiektos ankstesnėje versijoje, bet ji taip pat talpino daug daugiau programinės įrangos, nei ankstesnės laidos. Tai beveik padvigubino jos dydį 9.000 naujų paketų, įskaitant OpenOffice rinkinį, interneto naršyklę Firefox ir e-pašto klientą Thunderbird.

This release shipped with the 2.4 and 2.6 Linux kernel series, XFree86 4.3, GNOME 2.8 and KDE 3.3 and with a brand new installer. This new installer replaced the aging boot-floppies installer with a modular design with provided for more advanced installations (with RAID, XFS and LVM support) including hardware detection and making installations easier for novice users of all the architectures. It also switched to **aptitude** as the selected tool for package management. But the installation system also boasted full internationalization support as the software was translated into almost forty languages. The supporting documentation: installation manual and release notes, were made available with the release in ten and fifteen different languages respectively.

Ši laida laida apjungė Debian-Edu/Skolelinux, Debian-Med ir Debian-Accessibility subprojektų pastangas, kurios išplėtė mokomųjų programų skaičių, medicininės paskirties programų ir taip pat paketų, sukurtų specialiai žmonėms su negalia, skaičių.

The sixth *DebConf*, Debconf5 was held in Espoo, Finland, from July 10th to July 17th, 2005 with over three hundred participants. Videos from this conference are available online.

The seventh *DebConf*, Debconf6 was held in Oaxtepec, Mexico, from May 14th to May 22nd, 2006 with around two hundred participants. Videos and pictures from this conference are available online.

4.6 Laidos 4.x

Debian 4.0 (*etch*) was released April 8th, 2007 for the same number of architectures as in *sarge*. This included the AMD64 port but dropped support for m68k. The m68k port was, however, still available in the *unstable* distribution. There were around 18,200 binary packages maintained by more than one thousand and thirty Debian developers.

4.7 Laidos 5.x

Debian 5.0 (*lenny*) was released February 14th, 2009 for one more architecture than its predecessor, *etch*. This included the port for newer ARM processors. As with the previous release, support for the m68k architecture was still available in *unstable*. There were around 23,000 binary packages (built from over 12,000 source packages) maintained by more than one thousand and ten Debian developers.

With the release of Debian lenny, the naming scheme for point releases was changed: point releases will use a true micro version number, so the first point release of Debian lenny will be 5.0.1. In the past point releases were named by an *r* plus the number appended to major and minor number, e.g. 4.0r1.

The eighth *DebConf*, Debconf7, was held in Edinburgh, Scotland, from June 17th to 23th, 2007 with over four hundred participants. Videos and pictures from this conference are available online.

The ninth *DebConf*, Debconf8, was held in Mar de Plata, Argentina, from August 10th to 16th, 2008 with over two hundred participants. Videos and pictures from this conference are available online.

The tenth *DebConf*, Debconf9, was held in Cáceres, Spain, from July 23th to 30th, 2009 with over two hundred participants. Videos and pictures from this conference are available online.

The eleventh *DebConf*, Debconf10, was held in New York City, United States of America, from August 1st to 7th, 2010 with DebCamp preceding it from July 25th to 31st. Over 200 people including Debian developers, maintainers, users gathered at the Columbia Campus to participate in the conference. Videos and pictures from this conference are available online.

4.8 The 6.x Releases

Debian 6.0 (*squeeze*) was released February 6th, 2011.

After the project decided, the 29th of July 2009, to adopt time-based freezes so that new releases would be published the first half of every even year. Squeeze was a one-time exception to the two-year policy in order to get into the new time schedule.

This policy was adopted in order to provide better predictability of releases for users of the Debian distribution, and also allow Debian developers to do better long-term planning. A two-year release cycle provided more time for disruptive changes, reducing inconveniences caused for users. Having predictable freezes was expected also to reduce overall freeze time.

However, even though the freeze was expected in December 2009, the announcement that squeeze had frozen came in August 2010, coinciding with the celebration of the 10th annual DebConf meeting in New York.

New features include:

- Linux Kernel 2.6.32, now completely free and without problematic firmware files.
- libc: eglibc 2.11
- GNOME 2.30.0 with some pieces of 2.32
- KDE 4.4.5
- X.org 7.5
- Xfce 4.6
- OpenOffice.org 3.2.1
- Apache 2.2.16
- PHP 5.3.3
- MySQL 5.1.49
- PostgreSQL 8.4.6
- Samba 3.5.6

- GCC 4.4

- Perl 5.10

- Python 2.6 and 3.1

- 10,000 new packages, for more than 29,000 binary packages built from nearly 15,000 source packages.

- DKMS, a framework to generate Linux kernel modules whose sources do not reside in the Linux kernel source tree.

- Dependency-based ordering of init scripts using insserv, allowing parallel execution to shorten the time needed to boot the system.

- Two new ports, kfreebsd-i386 and kfreebsd-amd64.

Many packages started using a new source package format based on quilt. This new format, called "3.0 (quilt)" for non-native packages, separates Debian patches from the distributed source code. A new format, "3.0 (native)", was also introduced for native packages. New features in these formats include support for multiple upstream tarballs, support for bzip2 and lzma compressed tarballs and the inclusion of binary files.

The twelfth *DebConf*, Debconf11, was held in Banja Luka, Republic of Srpska, Bosnia and Herzegovina, from 24 to 30 July 2011, with DebCamp preceding it from 17 to 23 July.

The thirteenth *DebConf*, Debconf12, was held in Managua, Nicaragua, from 8 to 14 July 2012, with DebCamp preceding it from 1 to 6 July, and a Debian Day on 7 July.

4.9   The 7.x Releases

Debian 7.0 (*wheezy*) was released May 4th, 2013. This new version of Debian included various interesting features such as multiarch support, several specific tools to deploy private clouds, an improved installer, and a complete set of multimedia codecs and front-ends which removed the need for third-party repositories.

After the release of Debian wheezy, the naming scheme for point releases was changed once again: point releases will be named by the minor version number, e.g. 7.1. In the past point releases were named by the micro number appended to major and minor number, e.g. 6.0.1.

During the Debian Conference DebConf11, in July 2011, the "multiarch support" was introduced. This feature was a release goal for this release. Multiarch is a radical rethinking of the filesystem hierarchy with respect to library and header paths, to make programs and libraries of different hardware architectures easily installable in parallel on the very same system. This allows users to install packages from multiple architectures on the same machine. This is useful in various ways, but the most common is installing both 64 and 32-bit software on the same machine and having dependencies correctly resolved automatically. This feature is described extensively in the Multiarch manual.

The installation process was greatly improved. The system could be installed using software speech, above all by visually impaired people who do not use a Braille device. Thanks to the combined efforts of a huge number of translators, the installation system was available in 73 languages, and more than a dozen of them were available for speech synthesis too. In addition, for the first time, Debian supported installation and booting using UEFI for new 64-bit PCs, although there was no support for *Secure Boot* yet.

Other new features and updated software packages included:

- Linux Kernel 3.2

- kFreeBSD kernel 8.3 and 9.0

- libc: eglibc 2.13

- the GNOME 3.4 desktop environment

- KDE Plasma Workspaces and KDE Applications 4.8.4

- the Xfce 4.8 desktop environment

- X.org 7.7

- LibreOffice 3.5.4 (replacing OpenOffice)

- Xen Hypervisor 4.1.4

- Apache 2.2.22

- Tomcat 6.0.35 and 7.0.28

- PHP 5.4

- MySQL 5.5.30

- PostgreSQL 9.1

- Samba 3.6.6

- GCC 4.7 on PCs (4.6 elsewhere)

- Perl 5.14

- Python 2.7

- 12,800 new packages, for more than 37,400 binary packages built from nearly 17,500 source packages.

For more information on the new features introduced in this release, see the *What's new in Debian 7.0* chapter of *Wheezy* Release Notes.

The fourteenth *DebConf* Debconf13, was held in Vaumarcus, Switzerland, from 11 to 18 August 2013, with DebCamp preceding it from 6 to 10 August, and a Debian Day on 11 August.

The fifteenth *DebConf* Debconf14, was held in Portland, United States of America, from 23 to 31 August 2014. With 301 attendees it was the largest Debconf in the Western hemisphere to date.

4.10 The 8.x Releases

Debian 8.0 (*Jessie*) was released April 25th, 2015.

A major change in this release was the replacement of the init system: systemd replaced sysvinit. This new init system featured many improvements and faster boot times. Its inclusion, however, sparked a lot of debate in the different mailing lists and even led to a General Resolution titled init system coupling. which was voted by close to half of the developers1.

Other new features and updated software packages included:

- Apache 2.4.10

- Asterisk 11.13.1

- GIMP 2.8.14

- an updated version of the GNOME desktop environment 3.14

- GNU Compiler Collection 4.9.2

- Icedove 31.6.0 (an unbranded version of Mozilla Thunderbird)

- Iceweasel 31.6.0esr (an unbranded version of Mozilla Firefox)

- KDE Plasma Workspaces and KDE Applications 4.11.13

1In the Debian Project Leader Elections of the previous four years the number of voters had been usually around 40% of the existing Debian Developers

- LibreOffice 4.3.3

- Linux 3.16.7-ctk9

- MariaDB 10.0.16 and MySQL 5.5.42

- Nagios 3.5.1

- OpenJDK 7u75

- Perl 5.20.2

- PHP 5.6.7

- PostgreSQL 9.4.1

- Python 2.7.9 and 3.4.2

- Samba 4.1.17

- Tomcat 7.0.56 and 8.0.14

- Xen Hypervisor 4.4.1

- the Xfce 4.10 desktop environment

- more than 43,000 other ready-to-use software packages, built from nearly 20,100 source packages.

For more information on the new features introduced in this release, see the *What's new in Debian 8.0* chapter of *Jessie* Release Notes.

The sixteenth *DebConf* Debconf15, with DebCamp and the Open Weekend, took place in Heidelberg, Germany, from 9 to 22 August 2015.

The seventeenth *DebConf* Debconf16 was held in Cape Town, South Africa, from 23 June to 9 July 2016 (preceded by DebCamp and DebianDay). It was the first DebConf in Africa.

4.11   The 9.x Releases

Debian 9.0 (*Stretch*) was released June 17th, 2017.

New features and updated software packages included:

- Apache 2.4.23

- Bind 9.10

- Calligra 2.9

- Emacs 25.1

- Firefox 50.0

- GNOME desktop environment 3.22

- GNU Compiler Collection 6.3

- GnuPG 2.1

- KDE Plasma Workspaces and KDE Applications 5.8

- LibreOffice 5.2.7

- Linux 4.9

- MariaDB 10.1

- OpenJDK 8

- OpenSSH 7.4p1

- Perl 5.24

- PHP 7.0

- Postfix 3.1

- PostgreSQL 9.6

- Python 3.5

- Samba 4.5.8

- Xen Hypervisor 4.8.1

- the Xfce 4.12 desktop environment

- more than 51,000 other ready-to-use software packages, built from nearly 25,000 source packages.

For more information on the new features introduced in this release, see the *What's new in Debian 9.0* chapter of *Stretch* Release Notes.

The eighteenth *DebConf* Debconf17 took place in Montreal, Canada, from 31 July to 12 August 2017, preceded by its DebCamp and the DebianDay.

The nineteenth *DebConf* Debconf18 - the first DebConf in Asia - was held in Hsinchu, Taiwan, from 21 July to 5 August 2018, traditionally preceded by the DebCamp and an Open Day for the public.

4.12   The 10.x Releases

Debian 10.0 (*Buster*) was released July 6th, 2019.

New features and updated software packages included:

- Apache 2.4.38

- Bind 9.11

- Calligra 3.1

- Emacs 26.1

- Firefox 60.7

- GNOME desktop environment 3.30

- GNU Compiler Collection 8.3

- GnuPG 2.2

- KDE Plasma Workspaces and KDE Applications 5.14

- LibreOffice 6.1

- Linux 4.19

- MariaDB 10.3

- OpenJDK 11

- OpenSSH 7.9p1

- Perl 5.28

- PHP 7.3

- Postfix 3.3.2

- PostgreSQL 11

- Python 3.7.3

- Rustc 1.34

- Samba 4.9

- the Xfce 4.12 desktop environment

- more than 57,700 other ready-to-use software packages, built from nearly 25,000 source packages.

For more information on the new features introduced in this release, see the *What's new in Debian 10.0* chapter of *Buster* Release Notes.

Right after the release of *Buster*, the twentieth *DebConf* Debconf19 took place in Curitiba, Brazil, from 14 to 28 July 2019, together with DebCamp and an Open Day.

The twenty-first *DebConf* Debconf20 was held online - due to COVID-19 - from August 23rd to 29th, 2020.

4.13 The 11.x Releases

Debian 11.0 (*Bullseye*) was released August 14th, 2021.

New features and updated software packages included:

- Apache 2.4.48

- Bind 9.16

- Calligra 3.2

- Emacs 27.1

- Firefox 78

- GNOME desktop environment 3.38

- GNU Compiler Collection 10.2

- GnuPG 2.2.27

- KDE Plasma Workspaces and KDE Applications 5.20

- LibreOffice 7.0

- Linux 5.10

- MariaDB 10.5

- OpenJDK 11

- OpenSSH 8.4p1

- Perl 5.32

- PHP 7.4

- Postfix 3.5

- PostgreSQL 13

- Python 3.9.1

- Rustc 1.48

- Samba 4.13

- the Xfce 4.16 desktop environment

- more than 59,500 other ready-to-use software packages, built from more than 25,000 source packages.

For more information on the new features introduced in this release, see the *What's new in Debian 11.0* chapter of *Bullseye* Release Notes.

Right after the release of *Bullseye*, the twenty-second *DebConf* Debconf21 was held online - due to COVID-19 - from August 24 to August 28, 2021. It was preceded by an (online) DebCamp from August 15 to August 23, 2021.

DebConf22, the 23rd annual Debian Conference, took place in Prizren, Kosovo from July 17th to 24th, 2022. We've hosted 260 attendees from 38 different countries participating in 91 event talks, discussion sessions, Birds of a Feather (BoF) gatherings, workshops, and other activities.

DebConf23, took place in Kochi, India from September 10th to 17th, 2023. Over 474 attendees representing 35 countries from around the world came together for a combined 89 events made up of Talks, Discussions, Birds of a Feather (BoF) gatherings, workshops, and other activities.

Chapter 5

Some Important Events

5.1   2000 m. spalis: paketų klanų (Package Pools) įgyvendinimas

James Troup reported that he has been working on re-implementing the archive maintenance tools and switching to package pools. From this date, files are stored in a directory named after the corresponding source package inside of the `pools` directory. The distribution directories will only contain Packages files that contain references to the pool. This simplifies overlapping distributions such as testing and unstable. The archive is also database-driven using PostgreSQL which also speeds up lookups.

This concept of managing Debian's archives sort of like a package cache was first introduced by Bdale Garbee in this email to the debian-devel list in May of 1998.

5.2   2002 m. lapkritis: sudegė Debian'o serveris

2002 m. lapkričio mėn. 20 d. apie 08:00 CET, Twente universiteto Tinklo operacijų centre (Network Operations Center (NOC)) kilo gaisras. Pastatas sudegė iki pamatų. Gaisrininkai prarado betkokią viltį išgelbėti serverių zoną. Be kitų dalykų čia buvo satie.debian.org serveris, kuris talpino abu, security ir non-US archyvus, o taip pat naujų paketų prižiūrėtojų (new-maintainer (nm)) ir kokybės užtikrinimo (quality assurance (qa)) duomenų bazes. Debian'as atstatė šias tarnybas klecker kompiuteryje, kuris nesenai buvo perkeltas iš JAV į Olandiją.

5.3   November 2003: Several Debian servers hacked

Starting 17:00 UTC on November 19th, 2003, four of the project's main Web servers for bug tracking, mailing lists, security and Web searches have been compromised. The services were taken down for inspection and fortunately it could be confirmed, that the package archive was not affected by this compromise. On November 25th, all services were recovered and back online.

Chapter 6

Remembering People We Have Lost

6.1   2000 m. liepa: mirė Joel Klecker

On July 11th, 2000, Joel Klecker, who was also known as Espy, passed away at 21 years of age. No one who saw 'Espy' in #mklinux, the Debian lists or channels knew that behind this nickname was a young man suffering from a form of Duchenne muscular dystrophy. Most people only knew him as 'the Debian glibc and powerpc guy' and had no idea of the hardships Joel fought. Though physically impaired, he shared his great mind with others.

Mes ilgėsimės Joel Klecker (taip pat žinomo kaip Espy).

6.2   2001 m. kovas: mirė Christopher Rutter

2001 m. kovo mėn. 1 d. Christopher Matthew Rutter (taip pat žinomas kaip cmr) žuvo būdamas 19 metų nuo automobilio smūgio. Christopheris buvo jaunas ir gerai žinomas Debian'o projekto narys, padėjęs daryti ARM pritaikymą (port). Svetainė buildd.debian.org yra dedikuota jo atminimui.

Mes pasigesime Chris Rutter.

6.3   2001 m. kovas: mirė Fabrizio Polacco

2001 m. kovo mėn. 28 d. po ilgos ligos mirė Fabrizio Polacco. Debian'o projektas gerbė jo gerą darbą ir tvirtą pasišventimą Debian'ui ir laisvai programinei įrangai. Fabrizio indėlis nebus užmirštas ir kiti kūrėjai seks jo pėdomis ir tęs jo darbą.

Mes pasigesime Fabrizio Polacco.

6.4   2002 m. liepa: mirė Martin Butterweck

2002 m. liepos mėn. 21 d. po kovos su leukemija mirė Martinas Butterweck (taip pat žinomas kaip blendi). Martinas buvo jaunas, nesenai prisijungęs, Debian'o projekto narys.

Mes pasigesime Martino Butterweck.

6.5   2004 m. gegužis: mirė Manuel Estrada Sainz ir Andrés García Solier

Gegužės mėn. 9 d. Manuel Estrada Sainz (ranty) ir Andrés García Solier (ErConde), grįždami iš laisvos programinės įrangos konferencijos, vykusios Valencijoje (Ispanija), žuvo tragiško automobilio avarijos metu.

Mes pasigesime Manuel Estrada Sainz ir Andrés García Solier.

6.6   2005 m. liepa: mirė Jens Schmalzing

Liepos 30 d. Jens Schmalzing (jensen) žuvo tragiško įvykio jo darbo vietoje metu Miunchene, Vokietijoje. Jis buvo susietas su Debian'u kaip keleto paketų prižiūrėtojas, kaip PowerPC pritaikymo šalininkas, kaip branduolio komandos narys, ir buvo svarbus asmuo pervedant PowerPC branduolio paketą į versiją 2.6. Jis taip pat prižiūrėjo Mac-on-Linux emuliatorių ir jo branduolio modulius, padėjo įdiegiklio kūrime ir Miuncheno vietinės veiklos reikaluose.

Mes pasigesime Jens Schmalzing.

6.7   2008 m. gruodis: mirė Thiemo Seufer

On December 26th Thiemo Seufer (ths) died in a car accident. He was the lead maintainer of the MIPS and MIPSEL port and he had also contributed at length in the debian-installer long before he became a Debian developer in 2004. As a member of the QEMU team he wrote most of the MIPS emulation layer.

Mes pasigesime Thiemo Seufer.

6.8   July 2009: Steve Greenland died

On July 18th Steve Greenland (stevegr) died of cancer. He was the maintainer of many core packages (such as cron) since he joined Debian in 1999.

Steve Greenland will be missed.

6.9   August 2010: Frans Pop died

Frans Pop (fjp) died on August 20th. Frans was involved in Debian as a maintainer of several packages, a supporter of the S/390 port, and one of the most involved members of the Debian Installer team. He was a Debian listmaster, editor and release manager of the Installation Guide and the release notes, as well as a Dutch translator.

Frans Pop will be missed.

6.10   April 2011: Adrian von Bidder died

Adrian von Bidder (cmot) died on April 17th. Adrian was one of the founding members and secretary of debian.ch, he sparked many ideas that made Debian Switzerland be what it is today. Adrian also actively maintained software in the Debian package archive, and represented the project at numerous events.

Mes pasigesime Adrian von Bidder.

6.11   May 2013: Ray Dassen died

Ray Dassen (jdassen) died on May 18th. Ray was a Debian Developer for incredible 19 years. He joined the project in 1994, and continued to be an active contributor until his passing. Ray was one of the founding members of the Debian GNOME team, his friendliness and willingness to help fostered a spirit of collaboration within the GNOME team. He continued his involvement within Debian as the maintainer of several packages, most notably the Gnumeric spreadsheet.

Mes pasigesime Ray Dassen.

6.12   June 2013: Paul Cupis died

Paul Cupis died on 17th June 2013, he was 32 years old. He joined Debian in 2003. Paul (cupis@debian.org) was active in maintaining the doctorj (analyzing Javadoc comments) and other packages in Debian.

Paul Cupis will be missed.

6.13   2014 m. liepa: mirė Peter Miller

Peter Miller died on July 27th. Peter was a relative newcomer to the Debian project, but his contributions to Free and Open Source Software go back to the late 1980s. Peter was significant contributor to GNU gettext as well as being the main upstream author and maintainer of other projects that ship as part of Debian, including, but not limited to srecord, aegis and cook. Peter was also the author of the paper *Recursive Make Considered Harmful*.

Mes pasigesime Peter Miller.

6.14   February 2015: Clytie Siddall died

Clytie Siddall died in February 2015. Clytie was a contributor of Vietnamese translations to Debian and other projects for many years. Within Debian she worked on translations for the installer, dpkg, apt and various documentation. She also contributed translations within the GNOME community and many other projects. Clytie was also a GNOME foundation member between 2005 and 2007.

Mes pasigesime Clytie Siddall.

6.15   2015 m. gruodis: mirė Ian Murdock

Ian Murdock, the founder of the Debian Project and its community, died in December 2015. Ian was introduced to computers early in his life, he started actively programming at nine years of age. With the idea and the opportunity to make something better, he started the Debian Project in August of 1993. At that time, the whole concept of a "distribution" of Linux was new. Inspired as he said by Linus Torvalds' own sharing of Linux, he released Debian with the intention that this distribution should be made openly, in the spirit of Linux and GNU. Ian's dream lives on: Debian is made up of a strong community that has fostered development, growth, and wonder. It remains incredibly active with thousands of developers working untold hours to bring the world a reliable and secure operating system. Debian has sparked the interest, curiosity, and passion of those who want to make something better. Then, now, and far into the future.

The Debian 9 *Stretch* release was dedicated in his memory.

Mes pasigesime Ian Murdock.

6.16   September 2016: Kristoffer H. Rose died

Kristoffer H. Rose died on September 17th 2016 after a long battle with myelofibrosis. Kristoffer was a Debian contributor from the very early days of the project, and the upstream author of several packages, such as the LaTeX package Xy-pic and FlexML. On his return to the project after several years' absence, many of us had the pleasure of meeting Kristoffer during DebConf15 in Heidelberg.

Kristoffer H. Rose will be missed.

6.17   September 2018: Innocent de Marchi died

Innocent was a math teacher and a free software developer. One of his passions was tangram puzzles, which led him to write a tangram-like game that he later packaged and maintained in Debian. Soon his contributions expanded to other areas, and he also worked as a tireless translator into Catalan. Innocent de Marchi will be missed.

6.18   March 2019: Lucy Wayland died

Lucy was a contributor within the Cambridge (UK) Debian community, helping to organise the Cambridge Mini-DebConf since several years. She was a strong fighter for diversity and inclusion, and participated in the creation of the Debian Diversity Team, working on increasing the visibility of under-represented groups and providing support with respect to diversity issues within the community. Lucy Wayland will be missed.

6.19   June 2020: Robert Lemmen died

In June 2020, Robert Lemmen passed away after a serious illness. Robert had been regularly attending the Debian Munich meetups since the early 00s and helped with local booths. He had been a Debian Developer since 2007. Among other contributions, he packaged modules for Raku (Perl6 at that time) and helped other contributors to get involved in the Raku Team. He also put effort into tracking down circular dependencies in Debian. Robert Lemmen will be missed.

6.20   June 2020: Karl Ramm died

Karl Ramm passed away in June 2020, after complications due to metastatic colon cancer. He had been a Debian Developer since 2001 and packaged several components of MIT's Project Athena. He was passionate about technology and Debian, and always interested in helping others to find and promote their passions. Karl Ramm will be missed.

6.21   January 2021: Adam Conrad died

Adam "infinity" Conrad (formerly adconrad@d.o) passed away 26 January 2021 at the age of 43 years. Adam Conrad will be missed.

6.22   April 2021: Rogério Theodoro de Brito died

In April 2021, we lost Rogério Theodoro de Brito due to the COVID-19 pandemic. Rogério enjoyed coding small tools and had been a Debian contributor for more than 15 years. Among other projects, he contributed toward the use of Kurobox/Linkstation devices in Debian and maintained the youtube-dl tool. He also participated and was "Debian contact" in several upstream projects. Rogério Theodoro de Brito will be missed.

6.23   September 2023: Abraham Raji died

On 13th September 2023 Abraham Raji was involved in a fatal accident during a kayaking trip.

Abraham was a popular and respected Debian Developer as well a prominent free software champion in his home state of Kerala, India. He was a talented graphic designer and led design and branding work for DebConf23 and several other local events in recent years. Abraham gave his time selflessly when mentoring new contributors to the Debian project, and he was instrumental in creating and maintaining the Debian India website.

The Debian Project honors his good work and strong dedication to Debian and Free Software. Abraham's contributions will not be forgotten, and the high standards of his work will continue to serve as an inspiration to others.

6.24   December 2023: Gunnar Hjalmarsson died

Debian Developer Gunnar Hjalmarsson passed away in 2023. Gunnar was a consistent and valued contributor to Ubuntu since 2010 particularly on internationalization efforts and became similarly involved in Debian. He was an active maintainer in the Debian GNOME and Input Method teams.

Gunnar Hjalmarsson (1958-10-06 - 2023-12-20, Sweden) will be missed.

6.25   July 2024: Peter De Schrijver died

Debian Developer (since 2004) and Linux kernel hacker Peter "p2" De Schrijver passed away in July 2024. Many of us knew Peter as a very helpful and dedicated person and we valued his contributions to our project and the Linux community. Peter was a regular and familiar face in many conferences and meets across the world. Peter was highly regarded for his technical expertise in problem solving and for his willingness to share that knowledge. When asked "what are you working on?", Peter would often take the time to explain something you thought was extremely complicated understandably, or show you in- person his high technical proficiency in action on such tasks as translating a disassembled binary into C source code.

Peter's work, ideals, and memory leave a remarkable legacy and a loss that is felt around the world not only in the many communities he interacted with but in those he inspired and touched as well.

Peter De Schrijver (1970-09-17, Antwerp - 2024-07-12, Finland) will be missed.

6.26   November 2024: Jérémy Bobbio died

Jérémy "lunar" Bobbio, 41 years old, died on November 8, 2024. Lunar was very active as a Debian Developer, worked on the Tor project, and was one of the founders of the Reproducible Builds movement. They are remembered as a creative, thoughtful, smart activist; who made a huge impact on very thriving Free Software projects. Jérémy Bobbio will be missed.

6.27   January 2025: Steve Langasek died

Steve Langasek, 45, of Portland, Oregon, passed away on January 1, 2025, at Oregon Health and Science University Hospital. Steve was one of the Release Managers during the Debian 3.1 "sarge" release, in 2005 as well as during the 4.0 "etch" release in 2007. Steve Langasek (1979-04-27 - 2025-01-01, Portland) will be missed.

Chapter 7

Kas toliau?

The Debian Project continues to work on the *unstable* distribution (codenamed *sid*, after the evil and "unstable" kid next door from the *Toy Story 1* who should never be let out into the world). Sid is the permanent name for the unstable distribution and is always 'Still In Development'. Most new or updated packages are uploaded into this distribution.

The *testing* release is intended to become the next stable release and is currently (as of July 2024) codenamed *Trixie*.

Appendix A

Debian'o manifestas

Parašė Ianas A. Murdockas, Pataisyta 1994-01-06

A.1 Kas tai - Debian Linux?

Debian Linux yra visiškai nauja Linux distributyvo rūšis. Vietoje to, kad būtų kuriamas vieno izoliuoto asmens ar grupės, kaip kiti Linux distributyvai buvo kuriami pastaruoju metu, Debian'as yra kuriamas atvirai, Linux ir GNU dvasioje. Svarbiausias Debian'o projekto tikslas yra galiausiai sukurti distributyvą, kuris būtų vertas Linux vardo. Debian'as yra kruopščiai ir sąžiningai surinktas į vieną visumą, ir prižiūrimas bei palaikomas panašiu atidumu.

Tai taip pat yra mėginimas sukurti nekomercinį distributyvą, galinti efektyviai konkuruoti rinkoje su komerciniais. Pagaliau jį platins Laisvos programinės įrangos fondas (The Free Software Foundation) CD-ROM laikmenose. O Debian Linux asociacija pasiūlys distributyvą lanksčiuose diskeliuose ir magnetinėse juostose kartu su atspausdintais sistemos naudojimo vadovais, techninį palaikymą ir kitus naudojimui svarbius dalykus. Visa tai bus prieinama už truputį didesnę kainą nei savikaina, ir pelnas bus panaudotas tolimesniam laisvos programinės įrangos, skirtos visiems naudotojams, kūrimui.

A.2 Kodėl Debian'as buvo sukurtas?

Distributyvai yra būtini Linux ateičiai. Iš esmės, jie eliminuoja poreikį naudotojui parsisiųsti, pasidėti, kompiliuoti, įdiegti ir integruoti gana didelį kieki esminių įrankiu, kurių reikia veikiančios Linux sistemos surinkimui. Vietoje to konstravimu rūpinasi distributyvo kūrėjas, kurio darbu gali pasinaudoti tūkstančiai naudotojų. Beveik visi pradeda pažintį su Linux per distributyvą, o kai jau bus pažįstami su operacine sistema, ir toliau dauguma naudos distributyvą dėl patogumo. Taigi distributyvas iš tikrųjų atlieka labai svarbų vaidmenį.

Nepaisant akivaizdaus distributyvų svarbumo, jie pritraukia mažai kūrėjų. Tam yra paprasta priežastis: nėra nei lengva, nei patrauklu jį konstruoti, ir tas darbas reikalauja daug kūrėjo pastangų, kad distributyvas būtų šiuolaikiškas ir be klaidų. Viena yra sukurti sistemą nuo nulio, ir visai kita - užtikrinti, kad sistemą būtų lengva įdiegti, ji veiktų esant įvairioms techninės įrangos konfigūracijoms ir turėtų veikiančią, nuolat atnaujinamą, atsiradus sistemos komponentų patobulinimams, programinę įrangą.

Daugelis distributyvų buvo pradėti kaip gana geros sistemos, bet lakui bėgant, distributyvo priežiūra tampa antraeilis dalykas. Pavyzdžiui, Softlanding Linux System (geriau žinomas kaip SLS). Tikriausiai tai labiausiai pažeidžiamas ir blogiausiai prižiūrimas distributyvas; deja, jis turbūt yra ir pats populiariausias. Tai, be abejo, distributyvas, kuris pritraukia daugiausia komercinių Linux'ų platintojų, kurie savo ruožtu pelnosi iš didėjančio šios operacinės sistemos populiarumo.

Tai iš tikrųjų yra blogas derinys, nes dauguma žmonių, kurie įsigyja Linux'ą iš tokių „platintojų", gauna pažeidžiamą ir blogai prižiūrimą Linux distributyvą. Negana to, šie „platintojai"kelia nerimą reklamuodami neveikiančius arba labai nestabilius produktus. Daugelis pirkėjų, žinoma, tikisi, kad produktas atitinka reklamą ir mano, kad tai komercinė operacine sistema (dabar dažnai neminima, kad Linux yra laisvas ir platinamas pagal bendrąją viešąją licenciją GPL). Ir galiausiai, šių „platintojų"pastangos pasiteisina, jie iš to uždirbai pakankamai, kad galėtų geriau išreklamuoti produktą didesniame kiekyje žurnalų. Tai klasikinis nepriimtino elgesio pavyzdys, kuomet pelnomasi iš tų, kurie paprasčiausiai nežino nieko geresnio. Žinoma, reikia kažką daryti, kad ši situacija pasikeistų.

A.3   Kaip Debian'as stengsis įveikti šias problemas?

Debian'o kūrimo procesas yra atviras, tam kad būtų užtikrinta aukšta sistemos kokybė ir ji atspindėtų vartotojų bendruomenės poreikius. Įtraukdamas kitus, turinčius sugebėjimų ir patirties, Debian'as gali būti kuriamas moduliniu būdu. Jo komponentai yra aukštos kokybės, kadangi turintys kompetencijos tam tikroje srityje, gali konstruoti ir tvarkyti atskirus Debian'o komponentus. Kitų įtraukimas taip pat garantuoja, kad reikšmingi patobulinimo pasiūlymai bus panaudoti distributyvo tolesnio vystymo metu; taigi distributyvas yra kuriamas remiantis naudotojų, o ne kūrėjo norais ir poreikiais. Vienam asmeniui arba nedideliai grupei šiuos poreikius ir norus numatyti iš anksto yra labai sunku, kai prie to tiesiogiai neprisideda kiti.

Debian Linux distributyvą fizinėse laikmenose platins Laisvos programinės įrangos fondas (The Free Software Foundation) ir Debian Linux asociacija. Šios organizacijos sudarys sąlygas Debian'u naudotis ir neturintiems prieigos prie Interneto ar FTP, papildomai siūlys produktus (pvz.,vartotojo vadovus) ir paslaugas (pvz., techninį aptarnavimą) visiems sistemos vartotojams. Tokiu būdu Debian'ą galės naudoti daug daugiau pavienių asmenų ar organizacijų, dėmesys bus sutelktas ne į pelną ir apyvartą, bet į aukštos klasės produktų tiekimą, o už produktus ir paslaugas gautos pajamos galės būti naudojamos programinės įrangos, skirtos visiems vartotojams, nepriklausomai ar jie mokėjo ją įsigydami ar ne, tobulinimui.

Laisvos programinės įrangos fondas (The Free Software Foundation) yra labai svarbus Debian'o ateičiai. Tuo, kad jis platins šį distributyvą, pasauliui bus pranešama, kad Linux nėra ir niekada nebus komercinis produktas, bet tai nereiškia, kad Linux niekada negalės konkuruoti su komerciniais produktais. Tuos, kurie su tuo nesutinkate, aš siūlau pasidomėti apie GNU Emacs ir GCC, programų, kurios nėra komercinės, bet kurios, nepaisant to, turi gana nemažą įtaką komercinėje rinkoje, sėkmę.

Atėjo laikas labiau koncentruotis į Linux ateitį, negu į destruktyvų praturtėjimą visos Linux bendruomenės ir jos ateities sąskaita. Debian'o kūrimas ir platinimas galbūt nėra atsakymas į šiame manifeste iškeltas problemas, bet aš tikiuosi, kad tai atkreips pakankamą dėmesį į šias problemas, tam, kad jos galėtų būti sprendžiamos.