



LinuxTag 2009



**What is RPM Fusion
and why it is really
important for Fedora**
(and how you can help to make it better!)



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2 pm, Room Leonidas

Thorsten Leemhuis,
fedora@leemhuis.info

Talk available as PDF at:
<http://www.leemhuis.info/files/talks/linuxtag09-rpmpfusion.pdf>



Whoami

- Thorsten Leemhuis

- Nickname:

- @work: thl

- @home: knurd

- Age: 32

- Living in: Hannover, Germany

- Job: technical Editor

- English: we'll see if it is good enough for this talk...





Full Disclosure

• Work



- Heise publishing group (www.heise.de), working in the hardware test department of the "c't magazine" testing PCs CPUs, Mainboards; also specialist for "Linux on Hardware"
- author of the "Kernel-Log", which is published on heise.de; a English translation (after a small delay) is published on "The H" (www.h-online.com)



• Free time

- lots of Fedora work in various areas (among them FESCo-Chair in the Extras days; also helped getting EPEL running)
- Livna contributor nearly for a long time as well
- one of the drivers of the RPM Fusion idea
- doing lots of RPM Fusion work in various area (mainly rel-eng and kmods); Member of the Steering Committee





Remember

- I'm here on my own in my free time
 - not representation my employer!
 - actually it's often a problem to contribute to Fedora while being a journalist
 - OTOH it has some benefits, as my job benefits from the things I see and learn during my work for Fedora
 - not a Fedora Ambassador
 - otherwise it would be problematic to talk about some of the things I'll mention



This talk

- Target audience
 - obviously: users of Fedora
 - hopefully: people that want to help
- Main topics
 - What is RPM Fusion and how is it related to Fedora
 - Why is RPM Fusion important
 - Contributing to RPM Fusion
 - Where we (not) work on
 - How you can help!



What is RPM Fusion

- A repository that provides RPM packages for Fedora that Fedora doesn't want to or can't ship, but many people want or need
 - there is a difference between "doesn't want" or "can't "
 - gstreamer-plugins and xine-lib-extras-freeworld for example make it possible to play popular multimedia formats (Mp3, lots of video)
 - packages in the repos do not replace packages from Fedora!
 - some people would consider that a "new distribution"
 - would create trouble and confusion among developers and users
- round about 50 contributors; maybe 10 of them to most of the work
 - some (a lot? most?) of them are primary interested in their packages and not much in the project itself; RPM Fusion might be something that works well for their needs



Some backgrounds

- RPM Fusion is also a merger of the repos dribble, freshrpms and 99% of livna
 - those were three of the four most popular Fedora 3rd party repos 18 months ago
 - that fact these days is not much important anymore; kind of "history" already
 - livna still running, but serving just one package right now
- We right now and to the best of my knowledge don't do anything that is illegal in Europe
 - might be a important fact for companies that might use RPM Fusion to distribute their software
 - yes, some things might fall into "grey area"; kernel modules for example



More backgrounds

- RPM Fusion currently offers two repositories:
 - Free repository is for Open Source Software (as defined by the Fedora Licensing Guidelines) that Fedora doesn't ship
 - Nonfree repository is for everything else
 - This split allows Open-Source purists to stay away from nonfree
 - OTOH it makes some things more complicated, but the benefits likely outweighs the disadvantages
- Support for Fedora and related distros
 - Add-on repository for EL (RHEL/CentOS) & EPEL in the works
 - We maintain the repositories just as long as the OS the packages are build for
 - Fedora 9 is EOL soon, hence is RPM Fusion for F9 is EOL soon as well



Repo split: Free repo

- for Open Source Software (defined by the Fedora Licensing Guidelines) that Fedora can't or doesn't want to include
 - most of the time is the "can't", because it might be patent encumbered in the US
 - ffmpeg, libmad, gstreamer-ffmpeg, gstreamer-plugins-ugly, xine-lib-extras-freeworld and a lot more
 - sometimes it's the "doesn't want" to for various reasons
 - kernel modules (rt28{6,7}0, iscsitarget, VirtualBox-OSE)
 - stuff depending on kmods (iscsitarget and VirtualBox itself)
 - stuff surrounding kmods (kmodtool, akmods, ...)
 - some stuff would be fine for Fedora, but is RPM Fusion specific
 - rpmfusion-free-release, rpmfusion-free-remix-kickstarts
 - we (normally!) don't take anything that can go to Fedora
 - avoid competition with Fedora



Repo split: Nonfree repo

- everything that is not Open Source Software (again: defined by the Fedora Licensing Guidelines) or depends on it
 - Fedora doesn't want such software (which IMHO is a good thing)
 - **must** be re-distributable! Some examples:
 - d1x, doom-shareware, Mosaic, sdlmame, ufoai, unrar,
 - nonfree kernel modules and stuff depending on it
 - graphics drivers from amd and nvidia
 - broadcom-wl, madwifi (gets dropped)
 - yes, we know that's those kernel modules are a really grey area
 - software with open source code, but nonfree license
 - example: Software with "no-commercial" causes
- nonfree depends on free
 - but free is usable without nonfree



Why is RPM Fusion important

- Because it allows people to do a lot of things a standard Fedora installation can't do out of the box
 - but a lot of people want to do exactly those things (like playing mp3 and many video formats)
 - they thus kind of depend on RPM Fusion/the packages it provides
 - how many people would use Fedora if something like RPM Fusion would not be available?
- it's the "unofficial *central* add-on repository" for Fedora
 - the old situation with 3 competing repos confused people a lot
 - main reason: repo mixing problems; those are avoidable, but that requires a whole lot of effort and coordination; that's why directly working together is the better solution
 - nevertheless we didn't get much traction / community support



Configuration

- Configuration

- It's possible to enable RPM Fusion during anaconda install

- <http://rpmfusion.org/EnablingRpmFusionDuringFedoraInstall>

The screenshot shows the Fedora installation configuration interface. A dialog box titled "Edit Repository" is open, prompting the user to provide configuration information for a software repository. The dialog contains the following fields and options:

- Repository name:** RPM Fusion Free
- Repository type:** HTTP/FTP
- Repository URL:** <http://mirrors.rpmfusion.org/free/fedora/10/i386>
- URL is a mirror list
- Configure proxy
- Proxy URL:** (empty field)
- Proxy username:** (empty field)
- Proxy password:** (empty field)

At the bottom of the dialog are "Cancel" and "OK" buttons. The background window shows the "fedora" logo and various installation options, including "Office and Productivity", "Software Development", and "Web Server".



Configuration

- Configuration

- After installation <http://rpmfusion.org/Configuration> either using PackageKit or directly via rpm from the command line

Graphical Setup via Firefox web browser

1. First enable access to the **free** repository. For users of gpk (gnome package kit) or kpackagekit in Fedora that is easy and basically only one step: just click on one of the following files, depending on what distribution you use and then follow the default options that Firefox and Package Kit offer by clicking *Enter* a few times ⁽¹⁾:
 - [RPM Fusion free for Fedora 10 and 11](#)
 - RPM Fusion free for Fedora Alpha, Beta, Preview, Rawhide, RC, Snapshot aka. what will become Fedora 12
 - RPM Fusion free for RHEL5 or compatible like CentOS

Command Line Setup using rpm

To enable access to both the **free** and the **nonfree** repository use the following command:

- Fedora 10 or 11:

```
su -c 'rpm -Uvh http://download1.rpmfusion.org/free/fedora/rpmfusion-free-release-stable.noarch.rpm http://download1.rpmfusion.org/nonfree/fedora/rpmfusion-nonfree-release-stable.noarch.rpm'
```




RPM Fusion and Fedora

- some (not all...) Fedora and RPM Fusion contributors try to make sure that areas that change in Fedora stay or become more friendly for 3rd party repositories like RPM Fusion
- nearly all RPM Fusion contributors contribute to Fedora as well
- ideally the Fedora maintainer of package foo maintains the add-on or alternative package foo-freeworld in RPM Fusion
 - works for xine-lib, doesn't work for some others; improving this situation (for example by becoming co-maintainer for those packages in Fedora and RPM Fusion) would be nice
- sponsored Fedora contributors can also do reviews in RPM Fusion
 - even if they don't maintain RPM Fusion packages



Become a maintainer for RPM Fusion

- RPM Fusion re-uses the Fedora rules nearly everywhere
 - this includes package review procedures
 - one of the reasons for this: we don't need to document things and can point to the Fedora documentation
 - site note: yes, our documentations is in-adequate in a lot of areas :-/)
 - a few adjustments of cause are unavoidable
- you don't need a sponsor for RPM Fusion if you have been sponsored as Fedora packager
 - just create an FAS account and apply for cvs_extras and mention in the review bug during the first cvs that you need to be accepted
- if you are a sponsor in Fedora you can be a sponsor in RPM Fusion as well
 - but it's preferred if all contributors are Fedora contributors



How does package maintenance work

- RPM Fusion tries to use a similar infrastructure as Fedora
 - goal: identical except for a s/fedora/rpmsfusion/ in a lot of places
 - makes it quite easy for contributors to get started
 - bad experiences in the past; EPEL has/had a similar problem
 - cvs works just as in Fedora
 - using plague and the old extras push scripts right now, as it was easier to set up
 - actually it took way to much time already to get everything running
 - koji and bodhi are on the agenda
 - low priority
 - Xavier Lamien (laxathom) has details



Cooperation the other way

- not much support from Fedora as whole/as Project :-/
 - is it a must or are Fedora leaders/contributors maybe just over cautious?
- more support from the Fedora site badly needed
 - there are some well known problems that can't be fixed on the RPM Fusion side
 - main one: due to mirror lags and metadata caching there is no "right" time when we can push packages with inter-deps like kmods or xine-lib-extras-freeworld
 - Details? See <https://www.redhat.com/archives/fedora-devel-list/2008-August/msg00041.html>
 - getting the graphics drivers integrated properly
 - alternatives support for `%{_libdir}/libGL.so.1` needed would be a start
 - RHEL might benefit from this as well



What is RPM Fusion working on

- get more packages into the repositories
 - it just happens ;-D, but could be way more efficient if someone would drive this actively
 - try to bring packagers and reviewers together (review exchanges)
 - send reminders to the list / help getting things running again that stalled
- live and installer remixes
 - some work done, way more needed; really needs someone that is interested in it to drive the idea forward
- RPM Fusion for EL and EPEL
 - kind of there, kind of stalled;
 - no kmods yet
 - would benefit from someone working as release engineer



What is RPM Fusion working on slowly

- live and installer remixes
 - some work done, way more needed
 - really needs someone that is interested in it to drive the idea forward
- RPM Fusion for EL and EPEL
 - kind of there, kind of stalled
 - would really benefit from someone that acts as Jesse Keating ^w^w release engineer
 - no kmods yet
- improving the infrastructure
 - to be honest: we need to find a way to get some of the Fedora infrastructure members involved in RPM Fusion (steal them!)
 - misses a real leader / we need a mmcgrath



What is **not** (much) worked upon

- more formalized structure
 - real active steering committee
 - regular meetings
 - but only if wanted!
- documentation things
 - wiki could need a wrangler
 - not a new problem / known from other projects



Merge more repos?

- integrate/merge/obsolete more add-on repos for Fedora
 - "staging area" has been under discussion
 - integrating packages should be really easy; must be easier to get packages into that repo than to start your own, because otherwise people will start their own
 - only basic review: License; nothing that is obviously harmful
 - might make the real review and thus the path to the real repos easier
 - the idea is still on the agenda, but needs someone to work on it
 - bears risks



Do more?

- integrate/merge/obsolete more add-on repos for Fedora
 - "testing area"
 - dedicated small areas to test specific things
 - other areas where it might make sense: gnome, kernels,
 - the idea is still on the agenda, but needs someone to work on it
 - bears risks, needs a lot of maintenance
 - "backports"
 - the idea is still on the agenda, but needs someone to work on it
 - should those things be done in Fedora? Maybe..



Make things "just work" -- Graphics

- graphic drivers afaics need a whole lot of improvements
 - they seem to work well, but they are far from perfect when compared with other distributions
 - they should not know which version (nvidia 96xx, 173xx, latest) you need
 - get them after install and offer user to switch?
 - reuse Jockey from ubuntu
 - modifying xorg.conf sucks
 - hopefully the X-Server gets a better solution to chose between drivers
 - updates as well as enabling and disabling creates lot's of trouble
 - fglrx often troublemaker
 - AMDs fault, we often can't do anything to fix/work around it



Make things "just work" -- Kmods

- similar to graphics: works quite well, but far from perfect
 - the already mentioned mirror lag problem mentioned earlier makes kmod frustrating sometimes
 - there are still ideas and room for lots of improvements
- ongoing discussions to improve kmodtool for the EL space
 - Red Hat (Jon Masters) and Elrepo (Dag Wieers) involved, so here is some form of real cooperation between Red Hat and RPM Fusion
 - looks like a slightly different solution might make sense here; might be mostly transparent for users
 - keeping it in the same codebase looks possible
- Site note: please don't suggest akmods to everyone
 - you can use both and akmods jump in when needed



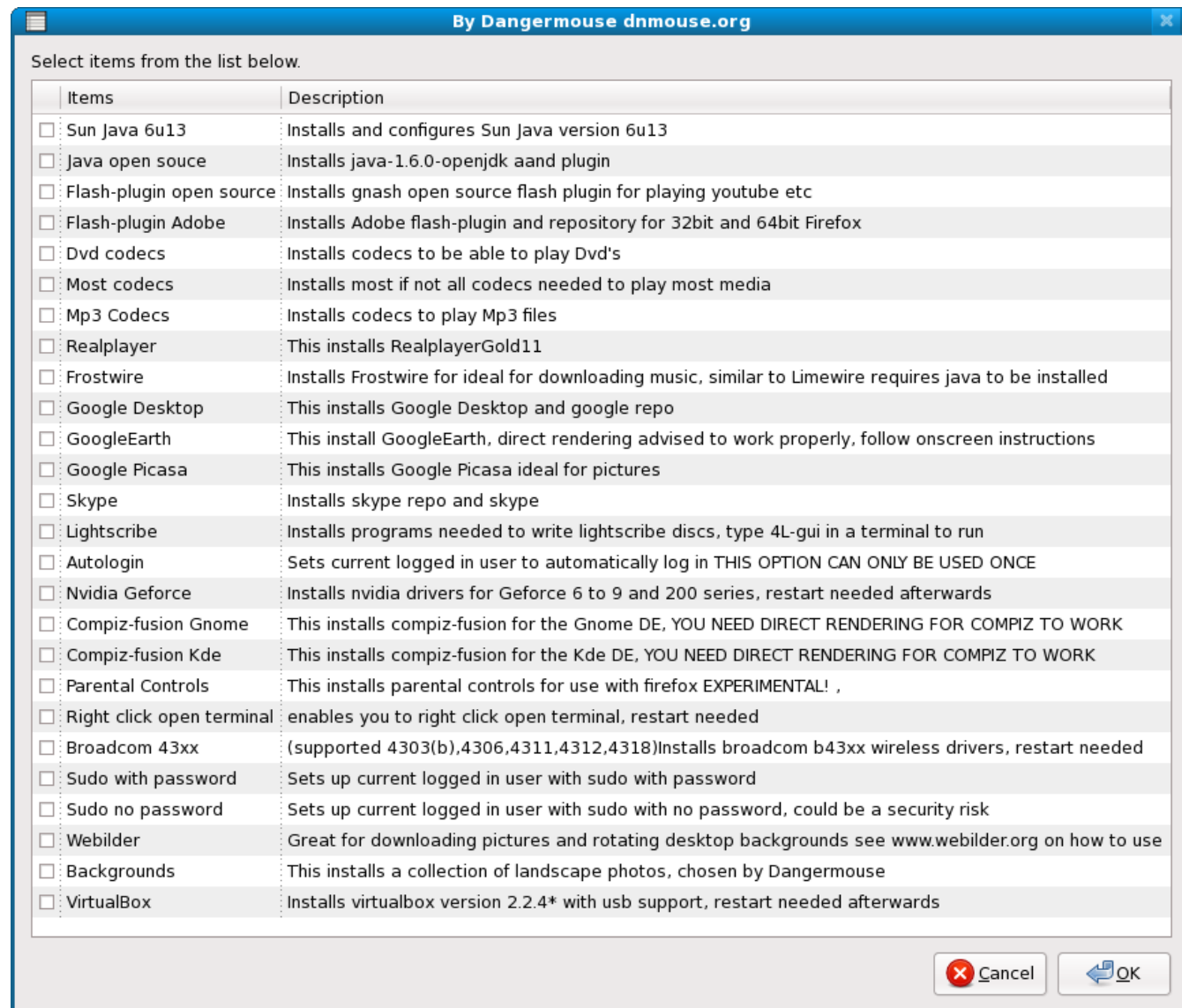
Make RPM Fusion the central place

- Hard problems
 - getting proprietary, not re-distributional software in the repos
 - examples: Flash, ~~Sun's Java~~, Adobe Reader, (w32codecs), ...
 - might be (next to) impossible / quite hard
 - people want to play encrypted DVDs
 - but RPM Fusion for now chose to not ship the lib that makes that possible on Linux, as that bears risks
- looks like RPM Fusion can't be the "one and only" repository
 - nevertheless it likely would help in RPM Fusion is the central/"one and only" point where you go to get solutions



Solution?

- something like autoten? maybe...





RPM Fusion needs help





How to help

- submit a new package and do a review!
 - <http://rpmfusion.org/Contributors> has all the details
 - Review queue can be found at [Bug 2 in bugzilla.rpmfusion.org](http://bugzilla.rpmfusion.org)
 - called "RF_NEW"
 - chose "Show dependency tree"
 - contains currently:
 - truecrypt (problematic)
 - moonlight (problematic)
 - cudatoolkit
 - libvdpau
 - HandBrake
 - mythtv-status
 - about 20 more, some for quite a while already



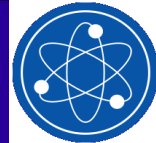
How to help

- report and/or fix bugs
- work on the infrastructure
- help with getting Fedora remixes realized
- become release engineer for the EL repositories
- take care of the wiki
- write apps that make things easier for people
- basically: just help where you think help is needed or where you have skills and interest!



Some closing words

- Maybe we should set the overall goal: make the combination of Fedora and RPM Fusion as easy to use as Ubuntu and similar easy to use distributions!
 - will be a whole lot of work that'll take some time to realize
 - requires proper remixes and rel-eng work like a real distribution
 - requires a bit help from the Fedora Project and their contributors
 - guess it could broaden the user base of Fedora significantly
 - avoid documenting problems as much as possible instead make things so easy that they "just work" and don't need much documentation
- After that: make it easier and better than Ubuntu and similar easy to use distributions ;-)



Report problems

- lots of HOWTOs, FAQs document workarounds
 - fixing things would be way better for everyone
 - often those workarounds even get outdated quickly
- report problem in bugzilla.rpmsfusion.org
 - poke maintainers if things don't get fixed, as things sometimes get forgotten
 - avoid using mailing lists for bug reports
 - bugzilla if for enhancements, too!

Bugzilla - Main Page version 3.0.4

[Home](#) | [New](#) | [Search](#) | [Find](#) | [Reports](#) | [Requests](#) | [New Account](#) | [Log In](#)

Tracker Bugs: [BF_NEW](#) - [BF_REVIEW](#) - [BF_ACCEPT](#)

Welcome to the RPM Fusion Bugzilla.

Most common actions:

- [Search existing bug reports](#)
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RPM Fusion needs help



- "just do it" is a good strategy to start
- it will be highly appreciated
- you'll get famous ;-)
- flat and nearly non-existing decision making hierarchy (good and bad) in RPM Fusion
 - I'll help if you want to get involved; just ask!

