



Writing specfiles

best practices

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February 2012

Summary

- news
- specfiles
- common mistakes
- Fedora packaging guidelines - updates



Create specfile

- create your own specfile
 - skeleton specfile
 - rpmdev-newspec package.spec



Create specfile

- generate by tool
 - gem2rpm
 - gem2rpm ./rails-3.2.1.gem
 - cpanspec
 - cpanspec Module::Build



Epoch is not evil

- epoch is by default set to zero
- epoch is usually hidden in the name of package:
perl-5.14.2-194.fc16
- show epoch by formatted output:
 - `rpm -q perl --qf "%{name}-%{epoch}:%{version}-%{release}\n"`
 - perl-4:5.14.2-194.fc16



Epoch is not evil

- when to use epoch
 - package was already officially built (in koji)
 - new version of program doesn't work
 - dependent packages don't work



Version

- proper nvr of snapshot
 - snapshot 20110102git9e88d7e
 - date of release of snapshot – git/svn/cvs – git hash
 - package-1.1-1.20110102git9e88d7e.fc17
 - and with patch:
 - package-1.1-2.20110102git9e88d7e.fc17
 - [NamingGuidelines#Package_Version](#)



Version

- rpmdev-vercmp (rpmdevtools)
 - snapshots rpmdev-vercmp a-1.1-1.20110203git9e88d7e.fc17 a-1.1-2.20110203git9e88d7e.fc17
a-1.1-1.20110203git9e88d7e.fc17 < a-1.1-2.20110203git9e88d7e.fc17
 - Zstream version
rpmdev-vercmp perl-5.8.8-44.el5_7.1 perl-5.8.8-44.el5_7.3
perl-5.8.8-44.el5_7.1 < perl-5.8.8-44.el5_7.3



Requires

- require *provides* of a package, not package's name
 - Requires: syslog
 - not rsyslog or syslog-ng
- require binary with path:
 - Requires: /usr/sbin/sendmail
 - exim, postfix, sendmail, ...



Requires

- Requires(preun|postun)
 - before|after uninstallation of a package
 - Requires(postun): systemd-units
- Requires(post)
 - break cyclic dependencies
 - Requires(post): perl-libs



Requires

- dependencies can be arch specific
- in every devel sub-package should be:
 - Requires: foo%{?_isa}

#FlightCrew package

%package devel

Summary: Development files for %{name}

Group: Development/Libraries

Requires: %{name}%{?_isa} = %{version}-%{release}



Provides/Obsoletes

- replace or rename existing package
 - # obsolete all lower versions
 - Obsoletes: vixie-cron < 4:4.3
 - # provide last released version
 - Provides: vixie-cron = 4:4.4
- obsolete the old package, not its *provides*



Provides/Obsoletes

- to kill old (sub)package

Obsoletes: perl-suidperl <= 4:5.12.2

- version is very important for possible future reborn of package
- obsoletes/provides should be in package for two releases of Fedora or *forever*
- **Renaming_Replacing_Existing_Packages**



Files section

- exclusion of directory %exclude

```
#main package
```

```
%files
```

```
%{_bindir}/*
```

```
%exclude %{bindir}/h2xs
```

```
...
```

```
# sub-package
```

```
%files devel
```

```
%{_bindir}/h2xs
```



Files section

- owns only directory without content
- %dir %({_sysconfdir}/cron.d



Files section

- why use noreplace:
 - example from bind:

```
%config(noreplace) \
```

```
%{_sysconfdir}/sysconfig/named
```



Files section

- verify
 - do *not* verify files, which are changed during runtime

```
%config(noreplace) %verify(not md5 size  
mtime)
```

```
%{_sysconfdir}/sysconfig/named
```

- **Rpm-files-section**



Macros

- `macros.dist` - define distribution tag
- `macros.jpckage` - define Java directories



Macros

- dependency generator since rpm-4.9
- macros.perl - filter unnecessary provides/requires

```
%global __provides_exclude_from %  
{perl_vendorarch}/auto/*\*.so$|%  
{perl_archlib}/.*\*.so$|%{_docdir}
```

```
%global __requires_exclude_from %{_docdir}
```

- **Dependency_generator**



Units in specfiles

- units need special care in scriptlets
 - trigger required for clean upgrade
- example: cronie.spec
- **Packaging:Systemd**



UsrMove

- since F-17 should be used:
/usr/bin, /usr/sbin, /usr/lib or /usr/lib64
instead of
/bin, /sbin, /lib or /lib64
- since F-17 /bin, /sbin, /lib, and /lib64 are symbolic links.
- all *new* packages should use new paths.

