Writing specfiles

best practices

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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.jpackage - define Java directories
Macros

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

```plaintext
%global __provides_exclude_from %
{perl_vendorarch}/auto/.*\\\.
{perl_archlib}/.*\\\.
{__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.