Opyum: offline package management with Yum

-- Debarshi Ray
What is it?

- An offline package manager for Fedora.
- Meant for users who cannot use conventional package management tools as they do not have a network connection.
  - Common scenario in India.
- Can be used to install or update packages on a “standalone” system.
The past and the present.

- Started in April as part of Google Summer Code 2007, under the Fedora Project.
- Inspired by Baishampayan Ghose's work for Ubuntu last year.
- Latest version, ie. 0.0.3, is available for F-7, F-8 and Rawhide.
  - # yum install opyum
How do we do it?

- From where do we get the packages?
  - Any Yum repository.
- How do we get them?
  - Using a “connected” Fedora system.
- Err... dependencies?
  - Profiles make it possible.
- How do we install or update?
  - Yum-Packs.
Terminologies

- **“Standalone” system**
  - Can not access Yum repositories.
  - Network connection is absent; or costly and slow.

- **“Connected” system**
  - Can access Yum repositories.
  - Cheap and fast network connection is present.
Terminologies (contd.)

- Profiles
  - Meta-data about packages installed in the system.
  - Need to be exported and imported.
  - Uncompressed tarballs.

- Yum-Packs
  - Contain all packages needed to complete a transaction.
  - Uncompressed tarballs.
Design decisions

- Written in Python.
  - Language of choice for Fedora.
  - Easy to learn, read and write.
- Uses Yum and RPM as back-ends.
- Keeps as close to Pirut as possible.
  - Re-usability of code and UI.
  - Pirut is well-maintained and sees frequent bug-fixes.
  - Pirut + profiles + Yum-Packs = Opyum
- Not a plugin. It is a separate program.
What *you* can be...

- **Designer**
  - Inkscape, GIMP, Glade, Gazpacho, PyGtk, etc..
  - Design graphical user interfaces.

- **Developer**
  - Python, PyGtk, Autoconf/Automake, familiarity with package management systems, Git, Bugzilla, etc..
  - Implement features and fix bugs.

- **Translator**
  - Language translation skills, diff, PO, Transifex, etc..
  - Translate Opyum into your favourite language.
Immediate TODO
(stable-0.0.x branch)

• Internationalization and localization.
  – Easiest of them all. :-)
  – Most of the code supports i18n.
  – Localize Opyum-specific strings.

• Required:
  – Translators, Developers
Immediate TODO
(stable-0.0.x branch)

- Support for Fedora DVD/CDs.
  - Fedora DVD/CDs are the only repositories a “standalone” system can directly access.
  - Needs work on Pirut.

- Required:
  - Developers, Designers
Immediate TODO
(stable-0.0.x branch)

• Make it multi-threaded.
  – Current UI seems to freeze while fetching package information, resolving dependencies, downloading packages, exporting or importing profiles, etc..
  – Most common complaint against Pirut too.
  – Needs improvements in both Opyum and Pirut.
  – Look at Yumex for possible solutions.

• Required:
  – Developers
Future TODO
(master branch)

• Migrate to PackageKit.
  – Obvious advantages.
  – Re-write existing tools using the PackageKit API.
  – Introduce a new PackageKit-based CLI.
  – May require work on PackageKit too.

• **Required:**
  – *Developers, Designers*
Future TODO
(master branch)

- Improve profile management.
  - Profiles should be usable across different architectures, releases, and derivatives.
  - Can we have smaller profiles?

- **Required:**
  - Developers
Ambitious TODO

• Creating Yum-Packs on MS Windows.
  – Most Internet cafes have Windows systems.
  – Python is available for Windows.
  – Resolving dependencies can be a blocker.
  – Can portions of Yum and/or RPM be ported?

• Required:
  – Developers
Developer Foo

- Project page
  - https://hosted.fedoraproject.org/projects/opyum/

- Mailing list
  - fedora-devel-list@redhat.com

- Source code:
  - git clone git://git.fedoraproject.org/git/hosted/opyum
Want to \textit{join}?

Drop me an email at rishi@fedoraproject.org

...and let all hell break loose. ;-)
Questions?