OpenIndiana Addon Consolidations

OpenIndiana Addon Consolidations (DRAFT)

General Notes

- **Attention this is an early draft!**
- examples for the pkgbuild-based build system are available at http://hg.openindiana.org/spec-files-oi-main/ and http://hg.openindiana.org/spec-files-oi-extra
- TODO list:
    - need to assemble an intital team of experienced packager for reviewing contributions
    - need to define a standardized build environment (probably in form of a script for preparing a build zone)
    - builds and testing are still manual processes, we have no jucr equivalent
- adopt taxonomy, procedures from http://hub.opensolaris.org/bin/view/Community+Group+on/os_dev_process and http://hub.opensolaris.org/bin/view/Community+Group+arc/interface-taxonomy
- consider http://hub.opensolaris.org/bin/view/Project+jds/code_review, http://hub.opensolaris.org/bin/view/Project+jds/development_model, http://hub.opensolaris.org/bin/view/Project+jds/pkging_guidelines
- add pointer to http://hg.openindiana.org/spec-files/raw-file/ed1242f82a09/docs/quickref.txt

Objectives

- provide packages of additional software
- uphold a high quality standard
- attract new packagers

Organization and Procedures

- three-tiered approach to software in OpenIndiana, classification in terms of cross-consolidation interdependencies and interface compatibility policies

Oracle and Illumos "core" consolidations

- external rules
- cannot add or change public interfaces
    - including the introduction of new interfaces or making consolidation-private interfaces public

OpenIndiana "main" consolidation(s)

- can have cross-consolidation dependencies on core consolidations
- can have limited cross-consolidation dependencies on main consolidations
    - this will be a consolidation-specific policy in case of multiple consolidations
- should not duplicate software in core consolidations
- new public interfaces will need approval, cannot break compatibility with core interfaces
    - the OIDC approves the introduction of public interfaces
    - consolidation-private interfaces do not need approval although some documentation may be required

OpenIndiana "extra" consolidation(s)

- can have cross-consolidation dependencies on core, main, extra consolidations
- can duplicate software in core or main consolidations
- can introduce new interfaces without approval with technical measures to prevent conflict

Release Process

- each "main" and "extra" consolidation will have separate development repositories
- newly added packages will be published to their respective development repository first
- all packages will be rebuilt for each development release due to cross-dependencies on packages delivered as part of the "core" consolidations
- the "main" consolidations will be published together with the "core" consolidations, "extra" consolidations will be published in a separate repo which is not enabled by default
- provide a pending repo which is updated as soon as new packages are added/exsisting packages are updated/removed

Build System

- currently based on pkgbuild
    - specfile style similar to JDS/SFE/jucr which is already documented well and ensures a low entry barrier for SFE and former contrib maintainers interested to get involved
- a second buildsystem similar to BSD-ports will be added later
- the choice of buildsystem will be left to the preference of the package maintainer
- both buildsystems will publish to the same repos

- the contribution process and rules for resulting packages will be the same
- an automatic conversion tool will be provided later

Roles

- three roles:
  - packager
  - contributor
  - core contributor
- there is an accountability chain: a packager is sponsored by a contributor, a contributor is sonsored by a core contributor, a core contributor is accountable to the OIDC
- it is desirable to have as many contributors as possible

Process for Sumitting New Packages

- the included template spec file can be taken as a starting point
- a packager creates and tests package locally in the defined build environment (a build zone)
- the packager files a feature request on http://www.illumos.org/projects/openindiana/issues against OI main or OI extra which includes:
  - a unique name for the package
  - a description of the packaged software
  - a link to the upstream website and source files
  - the specfile and a base-specfile (if applicable)
  - a copyright file
  - patches (if applicable)
  - additional source files (if applicable)
  - man pages for binaries (if not provided by upstream)
- the submission is reviewed by a contributor who becomes the sponsor for the packager
- a test build is done in a scratch zone/chroot on the OI build server
- the resulting package is installed and tested
- if the package does not conform to the guidelines or building or testing fail, another packager, contributor, or the sponsor add(s) a comment requesting corrections
- after the sponsor recognizes that all problems have been resolved the package becomes part of the consolidation
- the sponsors check it into the hg repo and adds the built package to the pending repo
- if submitters do not respond to comments within 4 weeks a comment is added requesting a response, if there is no response within 7 days the bug is closed

Validation Checklist for Package Submissions

- the package must be under an approved open source license (http://www.opensource.org/licenses/alphabetical)
- if the package includes code covered by known patents it must include a grant from the patent holder allowing royalty-free redistributions (either as part of the license or in form of an explicit statement)
  - otherwise it must be included in the separate "encumbered" consolidation
- the include copyright file must reflect the upstream license
- each package must define an %owner macro containing a valid email address of the current maintainer
- post/pre installscripts should not be used, they will be ignored by IPS anyway
- if possible, SunStudio 12u1 should be used to compile C/C++ packages, GCC may be used as a fallback solution
- the package must not not include prebuilt binaries or libraries (due to security and reproducability concerns, firmware is exempted)
- applications should be linked against shared libraries
- all files must be installed in locations designated by http://hub.opensolaris.org/bin/view/Community+Group+arc/install-locations
- installed files must respect namespaces and installed files must not conflict with existing packages
  - the "extra" consolidation uses the /usr/oie prefix
- must be in the appropriate consolidation
- should only duplicate existing packages in OpenIndiana with justification (e.g. newer library versions might be needed as a dependency)
- libraries should be provided both as 32-bit and 64-bit versions (see multi-ISA documentation http://hg.openindiana.org/spec-files/raw-file/ed1242f82a09/docs/multi-ISA.txt)
- relevant documentation needs to be included
- all binaries must have a manpage (at least a stub)
- OpenIndiana-specific technologies should be taken advantage of as feasible (Dtrace, FMA, ZFS, SMF)
- non-branding patches must be sent upstream

pkgbuild-based packages

- specfile
  - correct syntax
  - legible
  - all mandatory tags are present and have correct values (see template and http://hub.opensolaris.org/bin/view/Community+Group+sw-porters/pkgcomp)
  - the license tag and license are congruent
  - there are patch tags for each patch patch
  - category from the org.opensolaris.category.2008:Applications namespace (see http://hub.opensolaris.org/bin/view/Community+Group+sw%2Dporters/ipsclass)
  - builds on both i386 and sparc
  - the complete set of dependencies is specified
  - changelog entry
- patches are -p1 and named -<name>~~<number>~~<summary>.patch

- %optflags should be used

FIXME include others

(see also JDS guidelines)

Maintainership

General

- each package is either maintained by an single maintainer or group consisting of a maintainer and co-maintainers
- packagers and contributors can be maintainers

Change of Maintainership

- maintainerhip can be transferred
    - by the current maintainer
    - when the maintainer is unresponsive (see conditions below) with the approval of the OIDC

Orphaning of Packages

- packages will be orphaned
    - when the maintainer is unresponsive (see conditions below)
    - when the maintainer gives up maintainership
- orphaned packages will be announced in a bug report and on the mailing list either by the former maintainer or a core contributor member, if it is not adopted within 7 days it will be removed

Removal of Packages

- packages will be removed under the following conditions:
    - security issues/grave bugs
        - which cannot be resolved
        - or when the maintainer is unresponsive and nobody is willing to take over maintainership
    - the package is not properly licensed
    - the package has been obsoleted by another version
    - an orphaned package does not find a new maintainer
- removal of packages must be approved by OIDC

Roles

Packager

- anybody
- can submit packages which need to be reviewed and approved by core contributors
- can beome package maintainers but updates require review by a contributor
- can comment on reviews, do testing (important for promotions)

Contributor

- a contributor is a packager with experience and sustained contributions
- has direct access to the hg repo
- can review and sponsor packages from packagers
- can update his/her own packages without review

Core Contributor

- a core contributor is a skilled contributor with broad expertise
- can update any package without review provided one of the following conditions is fulfilled
    - grave bugs/security flaws are not fixed timely
    - a package causes problems for the lots of consumers or the project as a whole
    - changes are minor and affect a broad range of packages (cleanup/style changes)
- can sponsor packagers to become contributors
- can nominate contributors to OIDC to become core contributors
- can remove packages

OIDC

- the OpenIndiana Developer Council
- makes decisions regarding packaging rules and exceptions from those rules
- resolves disputes
- approves core contributors
- approves ownership changes and removal of packages

Promotions

From Packager to Contributor

- in order to become a contributor a packager can apply for sponsorship to an existing contributor
- the appplying packager is required to have some experience and sustained contributions
    - the sponsor verifies this by reviews and maintainership of packages

From Contributor to Core Contributor

- in order to become a core contributor a contributor can apply to the OIDC
- the application should contain a short rationale why he/she wants to become a core contributor and verifiable selection of contributions
- the OIDC needs to approve with three +1 and no -1

Unresponsive Maintainers

- in case a maintainer appears unresponsive, a bug is opened requesting a response
- after every 7 days a comment listing unsuccessful contact attempts is added
- after 3 weeks it can be request that the OIDC transfer the ownership of the package(s) to the requester or start an oprhaning process

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References:

- thanks to Alasdair and Albert for their comments on an earlier draft
- http://hub.opensolaris.org/bin/view/Community+Group+sw-porters/jucrprocess
- http://fedoraproject.org/wiki/Packaging/Guidelines
- http://fedoraproject.org/wiki/PackageMaintainers/Join
- http://fedoraproject.org/wiki/Package_maintainer_policy
- http://fedoraproject.org/wiki/Package_Review_Process
- http://fedoraproject.org/wiki/Provenpackager_policy
- http://fedoraproject.org/wiki/Package_sponsor_responsibilities