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kiwi-instsource
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Product Definition
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Perspectives

Closing

Product Creation in the Build Service

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SUSE Linux Products GmbH - Build Service Team

February 12, 2009

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Creating Products in the openSUSE Build Service

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Perspectives

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General

North Star

What is `kiwi`?
A brief overview

`kiwi` is ...

- a command line based toolkit
- usable as part of a process chain
- usable as base tool for a high level application

...to create system images in various formats

kiwi history

- originated by **Marcus Schäfer**
- original purpose was creating "system on a stick"

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General

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kiwi history

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- **James Willcox** (snorp) joins development for Thin Client (SLETC)
- **Jigish Gohil** (CyberOrg) joins development for LTSP project
- **Jan-Christoph Bornschlegel** (helcaraxe) starts implementing `kiwi-instsource`

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General

Project Status
Where kiwi is used

- Preloads
- Live DVDs (KDE, openSUSE, . . .)
- **installation sources**

Since openSUSE 11.1 used as mastering backend in the *Build Service*.

Documentation

Documentation is available through the web in various places

- `http://www.suse.de/~jcborn/kiwi-links.html`
- official documentation delivered with `kiwi-doc` package
- `instsource` documentation is WIP

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The Buildhost

North Star

Buildhost Requirements
Live Images

- Install **kiwi**, **kiwi-tools** and **kiwi-desc-*** packages
- create an image description file *config.xml*
- tweak system configuration (root/) directory

caveat: You must subscribe to the openSUSE:Tools repository first!

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Procedures

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1 **kiwi**
   - General
   - The Buildhost
   - **Procedures**

2 kiwi-instsource
   - Installation Source Overview
   - Workflow

3 Product Definition
   - Appetiser
   - Main Course

4 Perspectives

5 Closing

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Procedures

Invoking `kiwi`
for creating a live disc

- <docdir>/examples/<dist-flavor>
- (prepare:) kiwi -p <path> -r <basedir>
- (create:) kiwi -c <basedir> -t <type> -d <imagedir>

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Procedures

Invoking `kiwi`
explanation of used terms

docdir	/usr/share/doc/packages/kiwi
dist-flavor	one of suse-VERSION.RELEASE
path	the directory containing config.xml
basedir	directory created by `kiwi` containing the root tree
imagedir	where the images shall be put

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Installation Source Overview

What is `kiwi-instsource`

`kiwi-instsource` is a subpackage for installation source creation

- disk media
- FTP trees
- update repositories

Installable Media
Differences to Live Media

Live media are preinstalled systems that are ready to boot

- package selection done
- system configuration done

Installable Media
Differences to Live Media

- plain RPM files on media
- boots to installation system
- installation metadata
- Choice between conflicting alternatives
- multi-arch capable

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Using `kiwi-instsource` directly

What kind of information is necessary?

- RPM file list

- metapackages

- YaST2 metadata

- architecture list

- customisation through plugins

Show an example: examples/is-config.xml

Buildhost Requirements
Installation Sources

- Space. More is better.
- Install **kiwi-instsource**
- Install **kiwi-instsource-plugins-<flavor>**
- create an image description file *config.xml*
- customise plugins

Plugins can coexist for different platforms (target specific)
caveat: You must subscribe to the openSUSE:Tools repository first!

Invoking `kiwi`
for creating an installation source

install kiwi-instsource

config from BS (demo)

tree acquire base trees (there's work to do)

run kiwi -r <root> –create-instsource <path> –instsource-local

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Perspectives

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Appetiser

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What is a "Product"?

"A product is a defined set of packages plus extra information"

(see openSUSE Wiki)
So basically a product consists of:

- a set of packages
- a set of metadata

Product Definition
Advantages for the Release Managers and Product Managers

- a "product definition file" was specified
- used to create kiwi config files in the Build Service automatically
- easy to maintain
- product can be maintained directly be the product manager
- good reusability, base groups need to be specified only once
- simple add on products based on main line

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Main Course

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Product Definition
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Main Course

An Example Product: openSUSE
This is how openSUSE looks like for the release manager

preparations

- zypper in obs-server
- osc co openSUSE:Factory _product

- Now products can be modified and recreated
- Example: show product definition file

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Product Definition
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Main Course

Required Files
minimum set of files necessary for product creation

- *productname*.product
- *groupname*.group

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-
- Now products can be modified and recreated
- Example: show recreation

Expectations and Visions
what this will become

- All our products will be created in the Build Service that way
- Thousands of interconnected BS instances handle millions of products
- Addon products are so easy to create (based on existing work)
- Imaging for other platforms

Thank you for your attention
see you on FOSDEM 2010

You can contact me in various places:

- `irc.freenode.net` #opensuse-kiwi, user jcborn
- BuildService mailing list at
  $<$`opensuse-buildservice@opensuse.org`$>$
- kiwi-users mailing list at
  $<$`kiwi-users@lists.berlios.de`$>$
- jcborn@suse.de
- helcaraxe@opensuse.org

Thank you for your attention
see you on FOSDEM 2010

REMEMBER TO HAVE FUN!

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