This distribution contains annotations which were not available during the real talk. They are all marked in blue and give hints on how to proceed with the examples shown during the workshop.

Please take a look at the README file, too!

Distributing PHP applications with PEAR

International PHP Conference 2005

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Welcome

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- Introduction
- What is PEAR? New in PEAR 1.4
- The PEAR Infrastructure
- Channel server

---------- LUNCH BREAK ----------

- Packaging an application
- Distribution through PEAR
- Open part

Breaks

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- Woops, this topic was not on the agenda...
- Coffee breaks are held, when they occur...
  - ... scream if I miss them!!!
- Lunch break was already in the agenda.

Introduction

- Purpose of this part is to...
  - ... let you know, how you are dealing with.
  - ... introduce yourself.
  - ... start making new social connection.
    - This is the most important part on such conferences.

Introducing me

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- About me
  - Former software architect at Deutsche Bank
  - Currently student of Computer Science
  - Consultant for the areas of
    - Architecture, Development, Training, Management
  - Working with PHP for over 5 years
  - Member of the PEAR project since 2002
    - Packages, Website, Core-QA Team
  - Zend certified engineer

  - Working for customers like
    - eZ Systems (ez.no), Mayflower (thinkphp.de),...

Introducing you

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- So, who are you?
- Tell us about you (e.g.):
  - Your name
  - Area of work
  - What do you do with PHP?
  - Some more interesting stuff?

What is PEAR

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- Purpose of this part is to...
  - ... give you an overview on the project.
  - ... show you how PEAR evolved.
  - ... give you hints on how you maybe want to use PEAR, too.

Project overview

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- Collection of high quality PHP components
  - Flexible
  - Universal
  - Multi purpose
- Standardization institution
- Purely object oriented
- Nearly 500 packages and growing fast
- Almost 250 package maintainers, 500 contributors
- 100% free (only PHP, Apache, BSD, LGPL licenses)
- Founded by Stig S. Bakken in 1999

The PEAR Installer

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- Unified tool for installation of
  - PHP code (PEAR)
  - C extensions (PECL, http://pecl.php.net)
- Working on all major operating systems like
  - Windows, Linux, Mac OS
- Different GUIs available:
  - Console (built in), Web, GTK
- Handles dependencies between packages
- Provides tools for developers
- Shipped with PHP since version 4.3.0
- Not on your box? Try:
  - `$ lynx -source http://go-pear.org | php -q`

PECL

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- Sister project of PEAR
- Provides C-Extensions for PHP
  - Contains new / seldom used extensions
  - Extensions compile directly using the PEAR Installer
- Splitted from PEAR about 1,5 years ago
- Has it's own channel now:
  - pecl.php.net

New in PEAR 1.4

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- Purpose of this part is to...
  - ... summarize the new exciting features in 1.4
  - ... make you use the PEAR Installer :)

Feature overview (1/3)

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- Channels
  - Open your own package repository
- Automatic dependency resolving
  - `--onlyreqdeps` / `-o`
  - `--alldeps` / `-a`
- Dependency group support
- Dependencies to external packages
  - Refer to packages through URLs
- Post install scripts, like
  - Setting up databases
  - Moving files to the web root

Feature overview (2/3)

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- PHAR support
  - Running PHP applications from a single file
- Remote installation
  - Install PEAR without shell access
- New package.xml format
  - More flexibility for your own packages
- Mirroring
  - Wanna keep multiple servers up2date?
- Multiple modules in one package
  - Bundle packages with your application

Feature overview (3/3)

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- Channels
  - Set up your own package repository
    - Channel Server is a PEAR package
    - Provide any application through the Installer
  - Receive packages from multiple sources
  - Cross channel dependencies
  - REST interface

The PEAR Infrastructure

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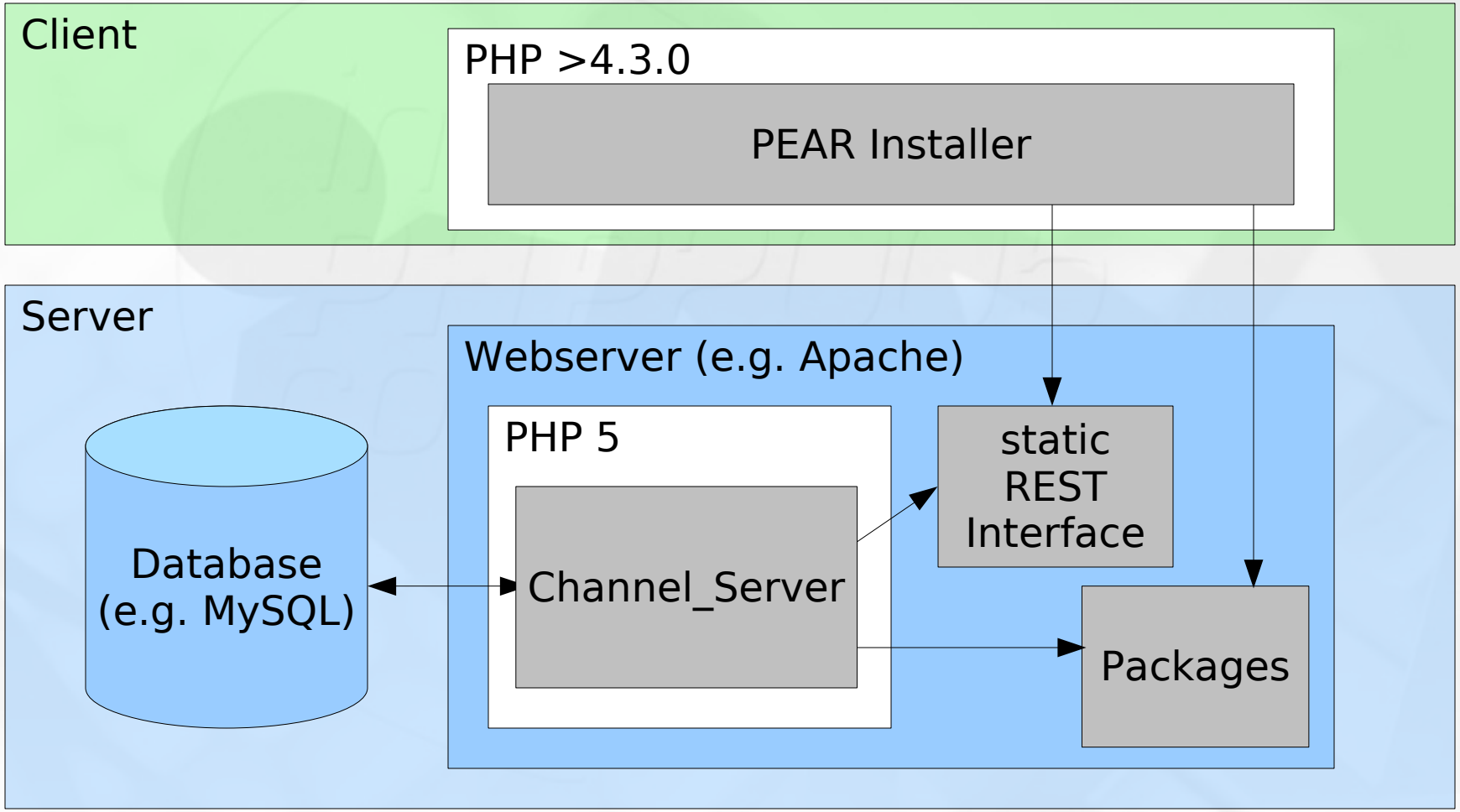
- Purpose of this part is to...
  - ... show you, how the Installer works.
  - ... make you understand what we are doing later.
  - ... give you ideas on how to build large applications with PHP.

Architecture



Important commands (1/4)

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- `$ pear` / `$ pear help [<command>]`
  - Main PEAR command
  - Shows you an overview on available commands
  - Using <command> explains this command
- `$ pear config-show [-c <channel>]`
  - Shows you the configuration values set
  - Adding -c shows settings for the specific channel
- `$ pear clear-cache`
  - Clear the local package information cache
  - Very useful, if you experience difficulties with PEAR

Important commands (2/4)

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- `$ pear [remote-]list [-c <channel>]`
  - List all installed packages
  - Shows all installed packages
  - Using remote-list lists available packages
  - -c shows you packages of a specific channel
- `$ pear list-<*> [-c <channel>]`
  - list-all: Shows all available packages
  - list-channels: Shows locally discovered channels
  - list-files: Shows files contained in a package

Important commands (3/4)

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- `$ pear [un]install [-a/o] [<channel>/]<package>`
  - Installs a needed package
  - uninstall: Removes a specific package
  - <channel>/<package> installs a package from a different channel than PEAR
  - -a resolves all dependencies automatically
  - -o resolves only required depenedencies
- `$pear upgrade[-all][-c <channel>]`
  - Updates a package
  - upgrade-all updates all packages that have updates
  - -c <channel> updates package(s) from that channel

Important commands (4/4)

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- `$ pear package [<package(2).xml>]`
  - Create a package as defined in package.xml version 1 or 2
  - Possible to use both versions
- `$ pear run-tests <package>`
  - Run test cases for the specific package
- `$ pear pickle`
  - Builds a PECL package

Seeing the PEAR infrastructure

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- Now, let's take a look at:
  - The Installer.
  - The infrastructure it uses.

- In this place the local PEAR repostitory structure was browsed. You should now take a look at it and make familiar with it's structure. You can determine where to find this directory using:
- $ pear config-show | grep php_dir

Channel server

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- Provides the architecture seen in the last part
- PEAR package
- Currently developed outside of PEAR
  - Chiara_PEAR_Server
  - http://pear.chiaraquartet.net/
- Status by now is ALPHA!
  - API may change
  - Many features to come....

How to get it?

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- `$ pear channel-discover pear.chiaraquartet.net`
  - Discovers Greg Beavers development channel
- Prepare required database & directory!
- `$ pear install chiara/Chiara_PEAR_Server`
  - Grabs the package from the channel
  - Installs all necessary files
- `$ pear run-scripts chiara/Chiara_PEAR_Server`
  - Runs the installation scripts
  - Generates channel.xml and REST

Live

- Ok, now I will try to install a PEAR channel server....
- ... let's see if it works...

- Now you should try to follow the instructions of the last slide and install the PEAR channel server on your system. For further information, take a look at the README file, included in this package.

And finally...

- ... if there is not time left...
- ... the lunch break ...

Packaging an application

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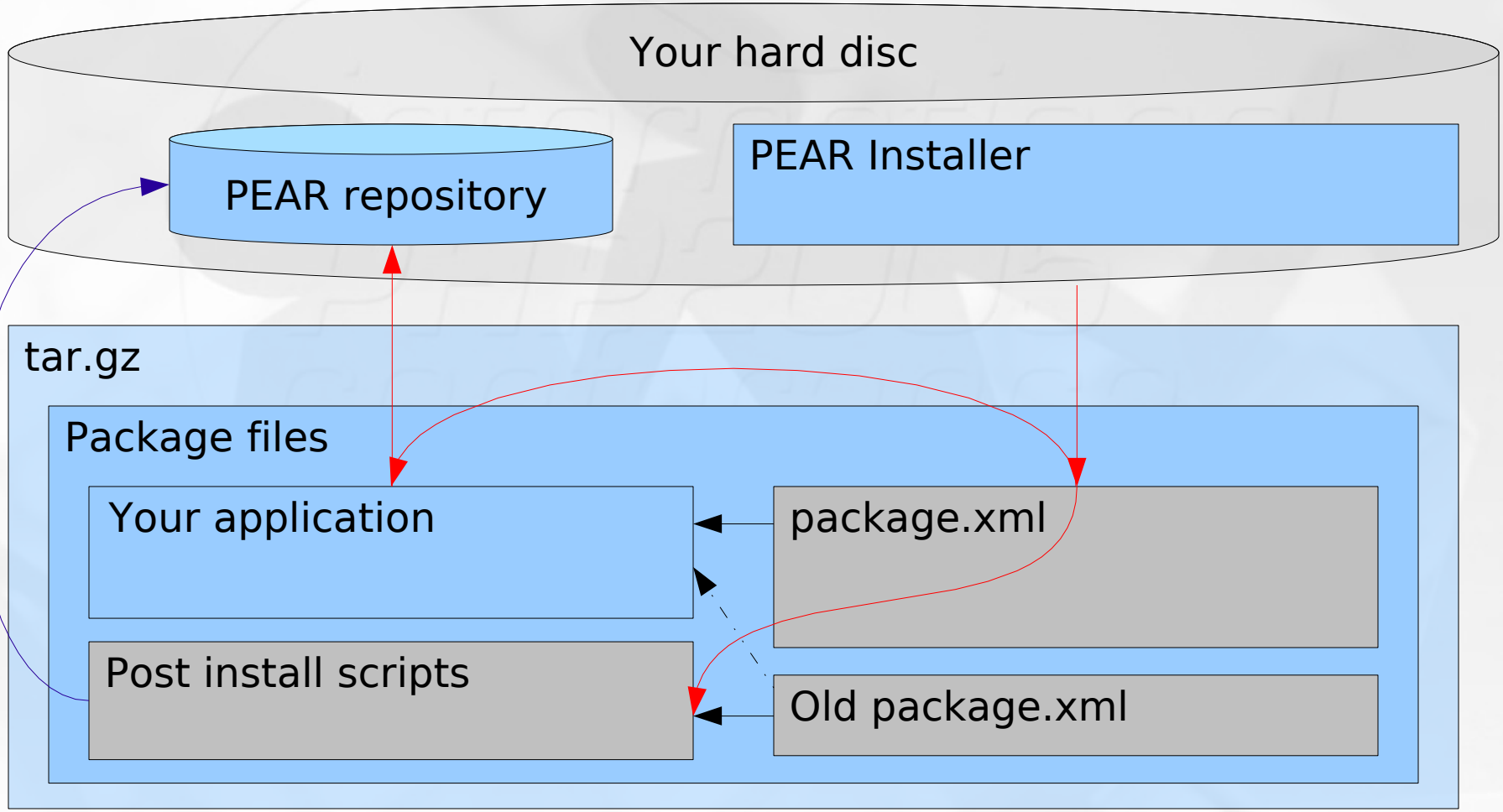
- Purpose of this part is to...
  - ... show you how a PEAR package works.
  - ... package an application with you together.
  - ... see how customers can install your application.

Architecture



package.xml

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- Handles general package information
  - Like “name”, “category”, “version”...
- Maps files to roles
  - Predefined roles like “php”, “doc”, “data”...
  - Roles map to installation directories
  - Custom roles are possible
- Handles dependencies to ...
  - ... PEAR packages
  - ... other channels packages
  - ... packages that are not provided through a channel

A custom role

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- PEAR has per default not a file role to install files into a web directory.
- Custom file roles are easy to implement.
- Let's create one on our own!

- Ok, now we will start real coding...
- ... and packaging.
- The custom file role is located in the directory CustomInstallerFiles. You can simply package this using the command “`$ pear package CustomInstallerFiles/package.xml`” and install it afterwards or even simpler, install directly from the package.xml: “`$ pear install CustomInstallerFiles/package.xml`”

Example application

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- Serendipity (S9Y)
  - Weblog application
  - Works with PHP4 and 5
  - Works with MySQL and PostgresSQL
  - Well known and reliable developes
  - Open source

- You should now take a look at the Serendipity source and try to get the structure of the S9Y package.
- Therefore, extract the S9Y 0.9 package you downloaded from the Serendipity website to the current directory (ATTENTION: do not overwrite the files currently below “serendipity/”).

Let's package

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- Ok, some more coding and packaging...

- Now it's time to perform the following steps:
  - Dig through the generate_package_xml.php and understand, what happens.
  - Run “$ php generate_package_xml.php make” to create the package.xml file inside the serendipity directory.
  - Merge the changes noted in “package.xml.additions” into the recently generated package.xml. Understand these changes!
  - Take a look at the “serendipity/Setup.php”, which is the post install script to install S9Y through PEAR.
  - Run “$ pear package serendipity/package.xml” to package Serendipity.
  - Upload the generated package to your channel server and install it from there or install it locally using “$ pear install serendipity/package.xml” and “$ pear run-scripts <channel>/Serendipity”.

Distributing

- By now you will either....
  - ...have seen how customers can install the application.
- or...
  - ... will see how customers can install the application.

Open part

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- Purpose of this part is to...
  - ... get all your questions answered.
  - ... maybe show you, what you missed in this talk?
  - ... maybe show you some more PEAR?
  - ... you decide, it's your workshop! :)

Finally...

- ... the end.

- Thanks a lot for your attention!
- I hope you had fun and learned something useful!

Useful links

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- This workshop online (soon):
  - http://pear.php.net/support/slides.php
- PEAR channel aggregator:
  - http://pearadise.net
  - 13 channels registered by now :)
- All PHP news in one place:
  - http://planet-php.net
- Contact: <toby@php.net>