

# OTB Users Days 2016

## OTB binary packages and XDK

OTB Team



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## The plan

- ▶ OTB Users want to use OTB applications through command-line, application launcher, monteverdi.
- ▶ OTB developers add new modules, applications into OTB for users. Sometimes (ahemm../) they find small bugs and report or fix them ASAP
- ▶ Both of them don't want to spend a half a day on setting up OTB
- ▶ "The Plan" is to let have OTB as the easiest way possible!



## Old Packaging strategy

- ▶ Start right after source archives are published
- ▶ Check if any of our dependencies are messed up in official repository. (OSGeo4W, ubuntuGIS, Fedora, MacPorts, Homebrew. . . )
- ▶ 90% of time they do mess up with anything or everything
- ▶ We disable some modules and or application due to respective packaging policy
- ▶ We copy-paste/fork existing packaging specs in OTB-DevUtils git repo and keep adding stuff to make it work with OTB X.Y
- ▶ We start building OTB and push new packages (OSGeo4W, ubuntuGIS (LTS + two versions), Fedora (last three versions))

## Packages are ready !

- ▶ Our users and developers help us find a crash, an otb application, dll or a symbol not found.. so on and so forth. . .
- ▶ Now OTB team keep swirling through the last two weeks work to find what did we miss and fix them
- ▶ This has become a *tedious* but important work taking out 2-3 week developer time!
- ▶ Also by the time we fix and upload newer package, user had already passed on building OTB from source !

**Why couldn't we fix this once and for all ?**



## So we need packages that...

- ▶ .. work on Linux (all distros), Windows, Mac OSX...
- ▶ .. work flawlessly for next 10 years!
- ▶ .. can be installed without installing anything on your OS
- ▶ .. do not require a sys-admin for installation
- ▶ .. do not make any new “entries” in bug tracker
- ▶ .. do not distract developer crowd from fixing critical bugs to adding cool features and documentation!
- ▶ To sum up, an awesome package!

## Solution

**We did solve this problem with our current packaging strategy !**



## OTB package (since 5.4)

- ▶ OTB make binary packages from and with Superbuild
- ▶ This make sure it is tested daily and dependencies are A-okay!
- ▶ We build them on a daily basis from develop branch
- ▶ We keep them release ready for any day!
- ▶ Target platforms covered are Windows, GNU/Linux and MacOSX 10.9+

## What is XDK ?

- ▶ XDK stands for external dependencies kit
- ▶ You have probably heard about SDK, the Software development Kit
- ▶ It is technically same. we call it differently.





## What it can offer to developers ?

- ▶ XDK provides a setup that can be used to build OTB from source without having any other dependencies
- ▶ You can think of it as a binary version of all packages in SuperBuild except OTB!
- ▶ XDK support a list fixed of c++ compilers and their versions



## What are it requirements ?

The requirements of OTB XDK are minimal depending on your platform of choice.

- ▶ Linux : Unix shell (preferably bash), GCC 4.x
- ▶ Mac OSX : Xcode, Apple Clang
- ▶ Windows : 7zip, MinGW64 toolchain (32bit or 64bit)
- ▶ For all platforms : CMake



## How do I get started ?

- ▶ Package is a self-extracting archive with a .run extension
- ▶ You only need a working Unix shell to install OTB!
- ▶ You only need GLIBC to use OTB!
- ▶ You only need X11 libs to use monteverdi!
- ▶ RPATH mechanism is employed during installation
- ▶ Can co-exist multiple installation of OTB with zero issues!
- ▶ Each packages links with their own copy of GDAL, ITK...
- ▶ OTB executables (monteverdi, ApplicationLauncher) are portable!
- ▶ You can even build your own custom binary package using OTB-Superbuild to use in your company or university!



## Known issues

- ▶ Monteverdi has a look and feel problem
- ▶ Cannot work if GLIBC is older than 2.2.5
- ▶ Only 64bit packages are available for GNU/Linux and OSX
- ▶ XDK does not support all tribes of compilers (GCC 6, IntelCC, borland, msvc)

## Did we reach our goal ?

- ▶ Yes. Indeed !
- ▶ I worked on this task. So I am biased... But you can test it yourself !
- ▶ With 5.4.0, we have zero bug reported on packaging side
- ▶ I know this can be Schrödinger's cat problem
- ▶ Someone has to open up a mantis bug report (the box) to say cat is dead
- ▶ But I say cat is alive and happy now !

<https://www.orfeo-toolbox.org/download/>