



Tizen:Common

A new development profile for Tizen 3

Stéphane Desneux
Senior Software Engineer
Eurogiciel

[<stephane.desneux@open.eurogiciel.org>](mailto:stephane.desneux@open.eurogiciel.org)

TIZEN™
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2014
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- **IT Services Company**
- **Open source development and integration:**
 - Maintainers in multiple domains on tizen.org
- **Embedded systems for real-time multimedia:**
 - Widi/Miracast stack
 - Wayland/Weston
- **Applications development**
 - HTML5/CSS3, jquery, jqmobi, Cordova ...
- **Location : Vannes (Brittany), France**

Agenda

- **Why Tizen:Common ?**
- **Overall view**
- **Inside Tizen:Common**
- **Roadmap**
- **Demo & Questions**

A decorative graphic in the top right corner of the slide. It features a large white circle, a smaller white circle above it, and a blue and white striped circle to the right. The background of this graphic is a stylized illustration of a city skyline with a suspension bridge over a blue body of water. The entire graphic is surrounded by scattered confetti in shades of blue, green, and white.

Why Tizen:Common ?

More Profiles

- **More profiles to handle:**

- Mobile
- IVI
- TV
- Household equipments
- Wearables



- **Creating a common base was becoming critical:**

- Keep compatibility between profiles
- Not all hardware can be made available to all developers
- Work done in Tizen:Common benefits to all profiles

Easing Development Process

- **Access to a platform development kit for anyone**
- **Intel Architecture:**
 - 32 bits & 64 bits
 - 100% Open Source including Graphic Drivers
 - Classic : Laptop, NUC, ...
 - Industrial : VTC1010
 - Hackers : Minnowboard-Max
- **ARM Architecture:**
 - 32 bits & 64 bits
 - Odroid-U3 (Samsung Exynos 4412 Prime, Mali 400 GPU)
 - Other -unsupported- boards are reported to work



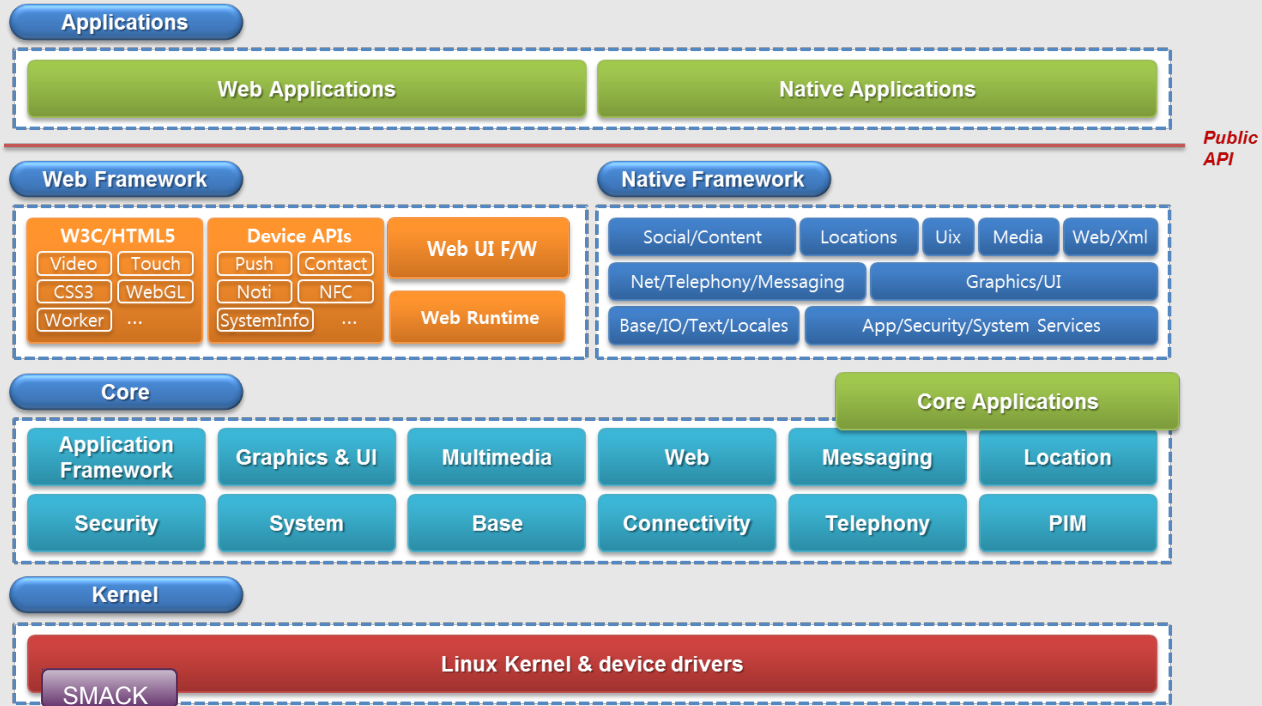
An Integration Point

- **Define a common base for most profiles**
 - Any package in 2 or more profiles should be included in Tizen:Common
 - Most packages in Tizen:Common are integrated in all profiles
 - Control of memory foot print / dependencies
- **Tool to test that major features should not break other profiles**
 - Multi user
 - SMACK
 - Cynara
 - Crosswalk
 - Weston/Wayland
 - ...

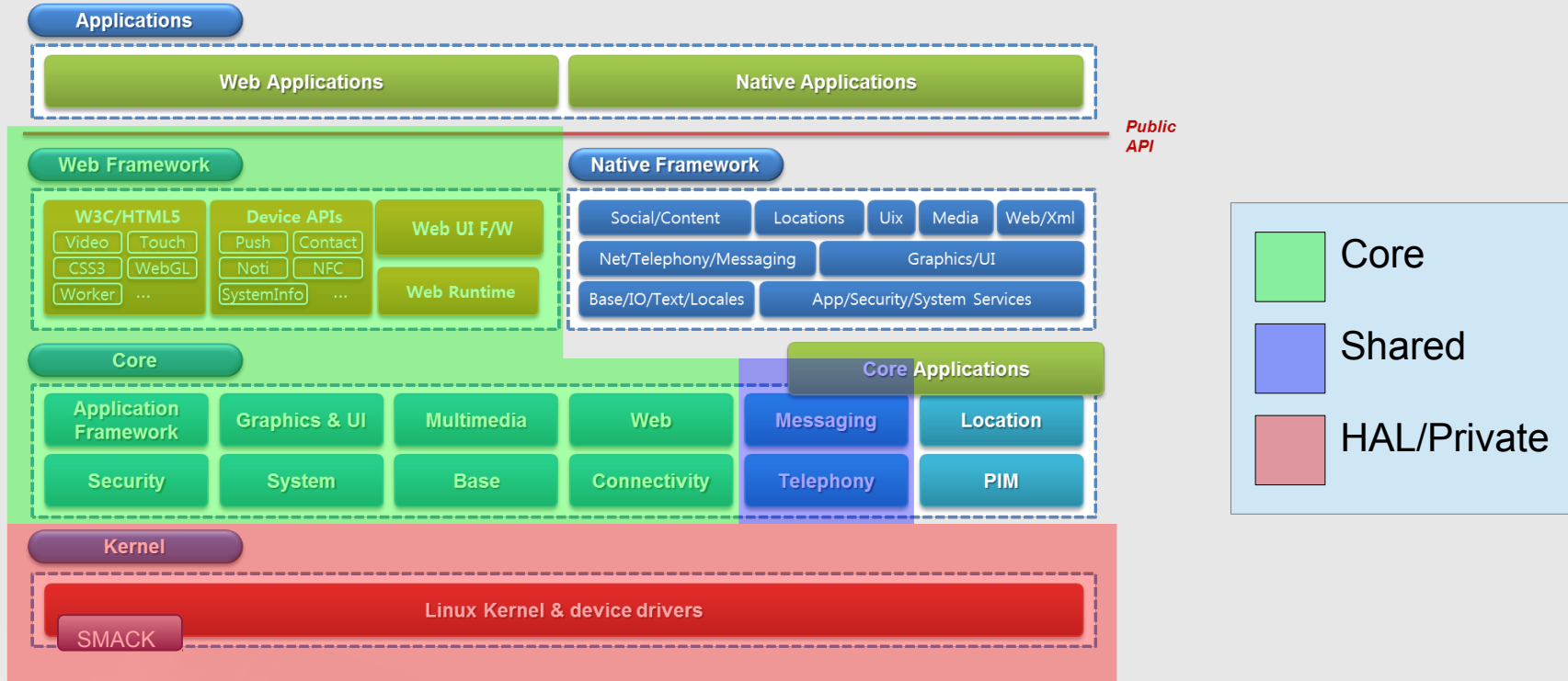


Overall view

Architecture Coverage



Architecture Coverage – where is Tizen:Common ?



Subprojects

- **Common-Micro**

- HAL (kernel, firmwares)
- Systemd, PAM, SMACK
- Base tools (coreutils, rpm ...)
- Network connectivity

- **Common-Light**

- Wayland
- Crosswalk
- Middleware
- Bluetooth
- Multimedia

- **Dev-Tools**

- Build toolchain
- Debug tools
- Console tools
- Test applications
- QA Tools and Test Suites

- **Shared components**

- Toolkits: EFL, Qt5
- Middleware: Ofono, Calendar

How to Create a New Tizen Profile

Profiles

Mobile

IVI

...

Common

QA & Tests

Devel

HAL / platform

Core

EFL

Qt

Ofono

...

Tools

Base (mandatory)

Shared (optional)

Packages Types

- **Core packages**
 - Used in **all** Tizen 3 profiles
 - Examples: Core APIs, Application Framework, Cynara, Crosswalk ...
- **Shared packages**
 - Used in **some** Tizen 3 profiles, but not all
 - Examples: EFL, Qt5, Ofono ...
- **Private packages**
 - Used exclusively in Tizen:Common, not to be used by any profile
 - Includes all packages located in `gerrit:profile/common/*`
 - Example: `kernel-common`, `weston-common`, `profile/common/meta` ...

Multi-product Support from a Unified Code Base

- **New feature:**
 - Integration on Tizen:Common first
 - Enable multi-architecture quick test
 - Enable synchronized integration for key features
- **Major changes to be tested against Tizen:Common**
- **Profile synchronization on Tizen:Common very regularly**
 - Syncing every week is advisable
 - A profile remains master of its own integration pace

Inside Tizen:Common



Build Workflow

- **Uses the new 'repa' tool**

- Creates a prerelease build for every submission
- OBS Project: home:prerelease:<target project>:<submission id>
Ex: home:prerelease:Tizen:Common:submit:tizen_common:20140529.194900

- **Prerelease Builds:**

- All packages depending on the submitted packages are rebuilt
- Prerelease Images are also available for testing
Available on: <http://download.tizen.org/build/prerelease/tizen/common/...>
URL is also indicated in prerelease project description (header on OBS UI)
- Automatic QA sanity tests can then be run on prerelease images

Acceptance Criteria

- Most packages in Tizen:Common will be pulled by other profiles
- High acceptance criteria are needed
- **Consequence: a submission will be accepted if:**
 - Prerelease build is clean in **all architectures**: ia32, x86_64, armv7l ...
AND
 - Prerelease images **are all built** successfully
AND
 - QA Sanity tests **pass** on all prerelease images

Guidelines for Maintainers

- **Local build with multiple architectures:**
 - use 'gbs build -A <arch>' to test before submitting
- **Use 'gbs submit -t <target>' to choose the right project:**
 - Target = 'tizen_common' to send to Tizen:Common only
Typical usage: integrate new features
 - Target = 'tizen_<profile>' to send to a specific profile only
Typical usage: submit a change on a profile-specific package
 - Target = 'tizen' to broadcast to all profiles
Typical usage: bug fixing
- **Use group submissions when needed:**
 - when multiple packages must be changed simultaneously
 - use 'gbs submit --tag <tag>'

OBS Project & Bug Tracking

- **On OBS: 'Tizen:Common' project**
 - ~730 packages
 - cleanup in progress
- **5 repositories (4 architectures)**
 - x86
 - x86_64
 - armv7l (repository published, images for ODroid-U3 coming soon)
 - aarch64 (ARM 64 bits): coming soon
 - emulator32 (x86 repository for SDK)
- **Bug reports**
 - new JIRA project 'TC'

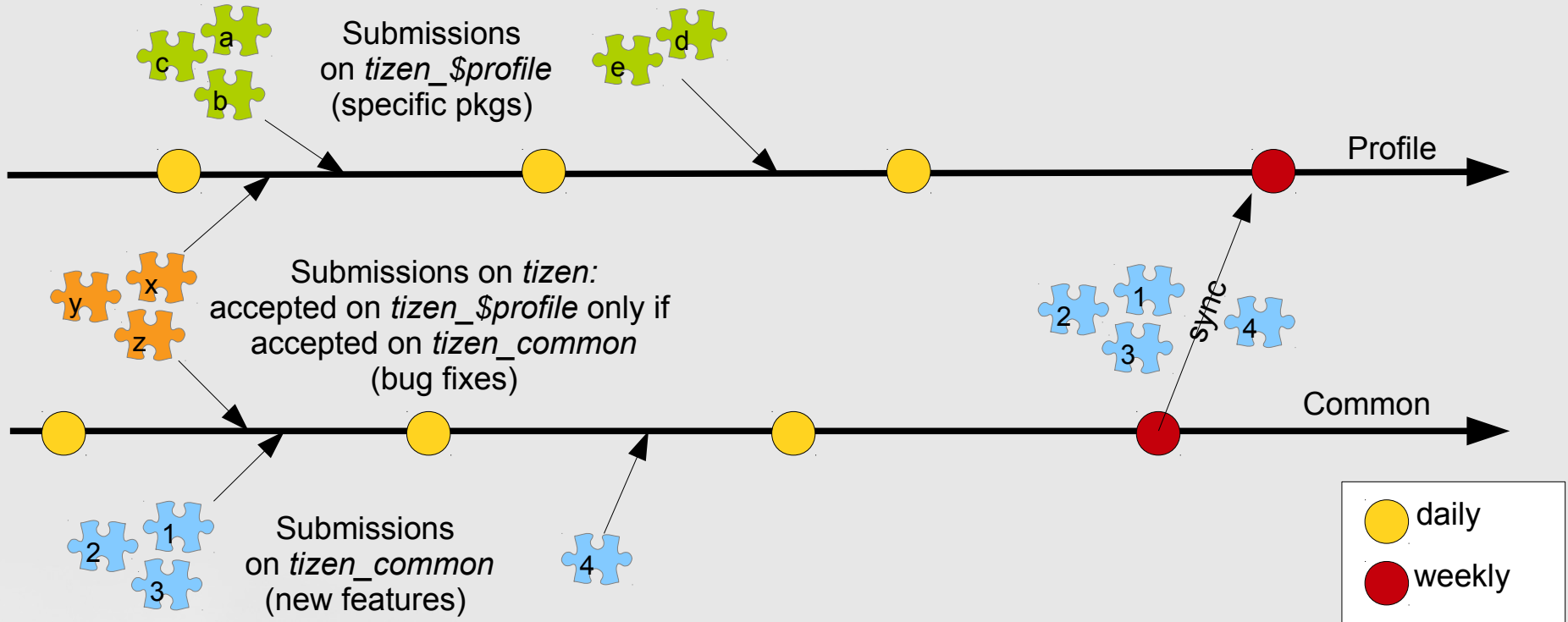
Images Types and Flavours

- **Main:**
 - common-wayland-mbr-<arch> : raw image for USB/SSD/HDD
- **Minimal:**
 - common-minimal-mbr-<arch> : raw image for USB/SSD/HDD
- **Emulator:**
 - common-emulator-wayland-i586 : ia32 only, tarball for qemu (SDK)
- **Installer:**
 - common-installer-mbr-i586 : ia32 only, small raw image for USB sticks
- **Extra tags:**
 - *-qa-unsafe-*: allows automatic login through SSH (QA tests, Developers)
 - *-mbr-* or *-efi-*: type of boot loader (EFI support coming soon)

Snapshots & Releases

- **Snapshots**
 - created at the end of a build cycle in the main OBS project
 - automatic QA Sanity tests are run on each snapshot
- **Daily Release**
 - Selection of the best snapshot of the day
 - Extra automatic QA tests are run
- **Weekly Release**
 - Selection of the best daily release of the week
 - Extensive automatic & manual QA tests
 - Published on Wednesday

Keeping Synced with Tizen:Common



Roadmap



Recent History

- **Components:**

- Multiuser mode (partial)
- Single Weston instance (RDP available for developers)
- Crosswalk 7.35.x
- EFL 1.9.3
- Mesa 10.1.3
- Qt5 5.3.0
- Gumd, Cynara (early integration)

- **Snapshots and Images:**

- ARM build (armv7l with neon FPU, beta image for AllWinner-A20/Olimex)
- Emulator image (32 bits)
- Installer image

Roadmap

- **Milestones:**

- 3.0 Common 2014 Q2 : end of May 2014, currently in development
- 3.0 Common 2014 Q3 : end of Aug 2014
- 3.0 Common 2014 Q4 : end of Nov 2014

- **Features**

- Alpha Q2 2014
 - Crosswalk, Multiuser, Smack, Wayland
 - Buxton, Cynara not added yet
- Beta Q3 2014
 - 3D UI, new Bluetooth FW, Wifi FW, ARM64, EFL upgrade, User accounts management

Demo & Questions



Links

- **Snapshots:** <http://download.tizen.org/snapshots/tizen/common>
- **Daily Releases:** <http://download.tizen.org/releases/daily/tizen/common>
- **Weekly Releases:** <http://download.tizen.org/releases/weekly/tizen/common>
- **Wiki**
 - Tizen Common: <http://wiki.tizen.org/wiki/Common>
 - Tizen 3.0: https://wiki.tizen.org/wiki/Tizen_3.0
- **OBS Project:** <https://build.tizen.org/project/show?project=Tizen%3ACommon>
- **JIRA Project:** <https://bugs.tizen.org/jira/browse/TC>



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