Connecting with Tizen : An Overview & Roadmap

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What is Tizen? (1/2)

Designed for various category of devices

A completely open source software platform

What is Tizen? (2/2)

Strong product line

Core platform of 'Internet of Things'

Why Tizen?

Developer friendly Tizen Store

Strong Development Environment, Supported by SDK

Why Tizen?

Game Development Support

unity

Different Application Types

HTML

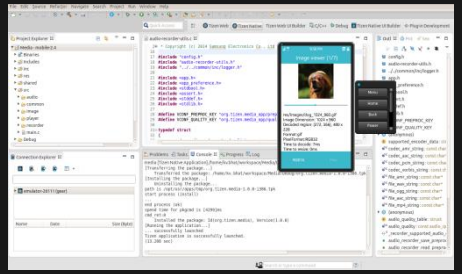
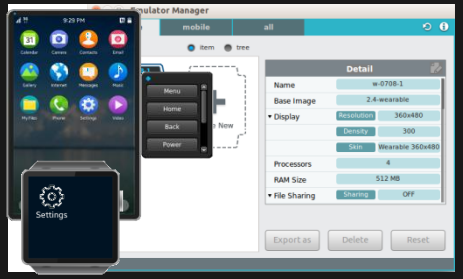
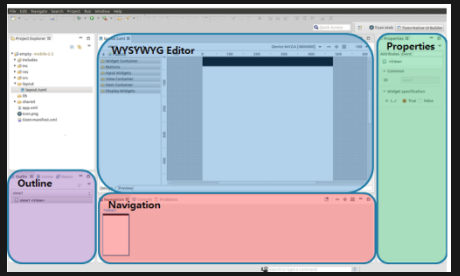
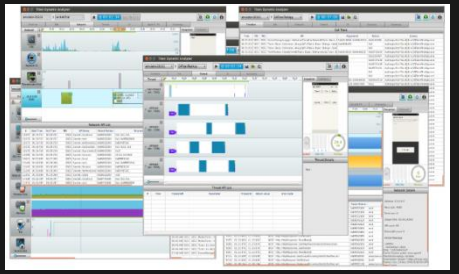
Rich Multimedia, UI Support

gstreamer

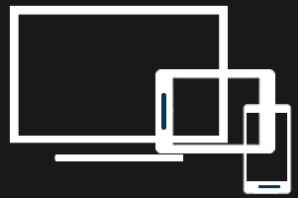
YouTube

Performance

Why Tizen? : Powerful SDK

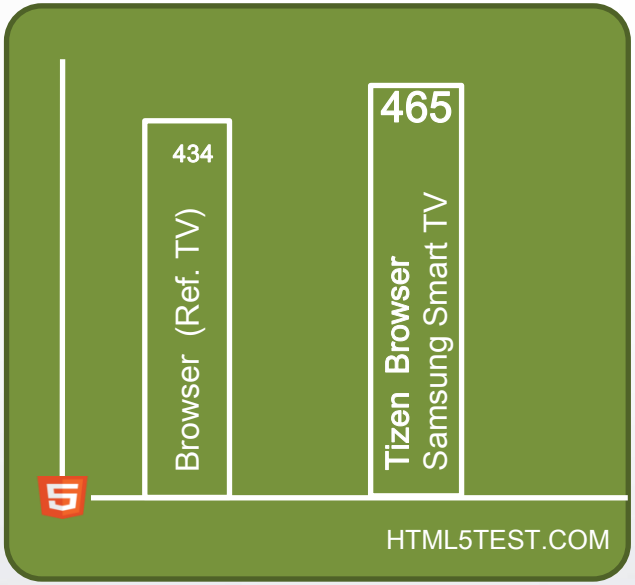
Eclipse based IDE	Targets like Emulator	GUI Builder	Tools
			
• Competitive Editor for HTML5,C,C++. • Project management, Sample Apps	• Emulator Support • Event Injector • Resolution support	• GUI Builder • Storyboard	• Code Analysis Tools • Profiling Tools • Web inspector

Why Tizen? : App models

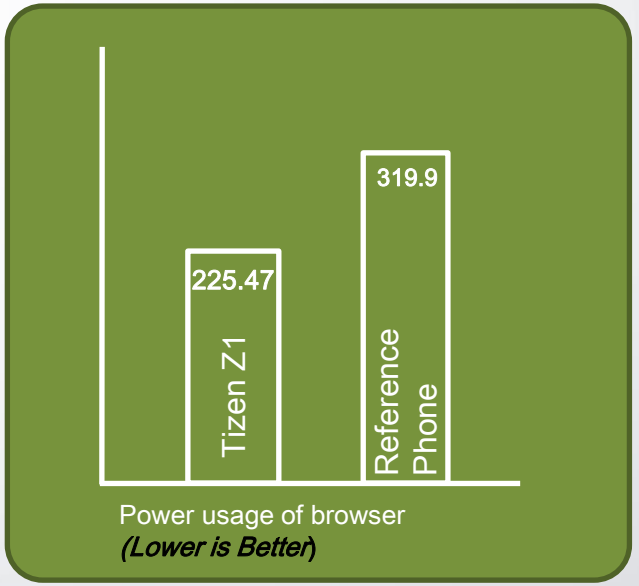
Web Applications	Native Applications	Hybrid Applications
		
• HTML5, W3C, • Web API • High Portability	• Full Device Access • Native APIs • High Performance	• Web ⟷ Native • Multiplatform portable • Average Performance

Why Tizen? : Web support

- Tizen Browser has best HTML5 support and power usage



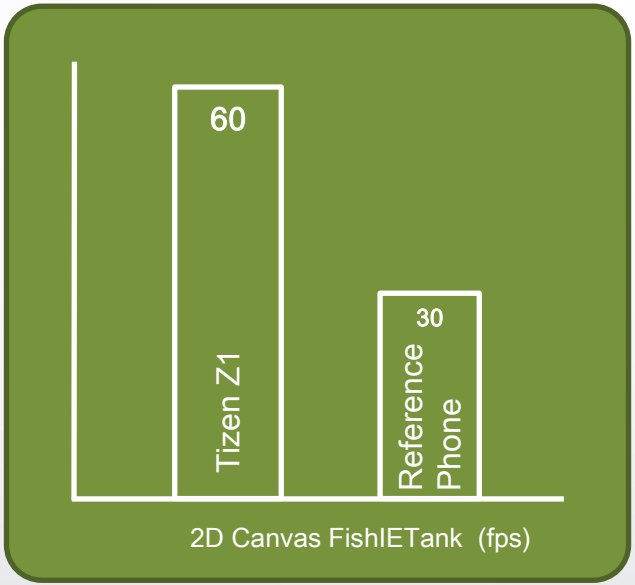
Best among all Smart TVs
Reference TV with same spec

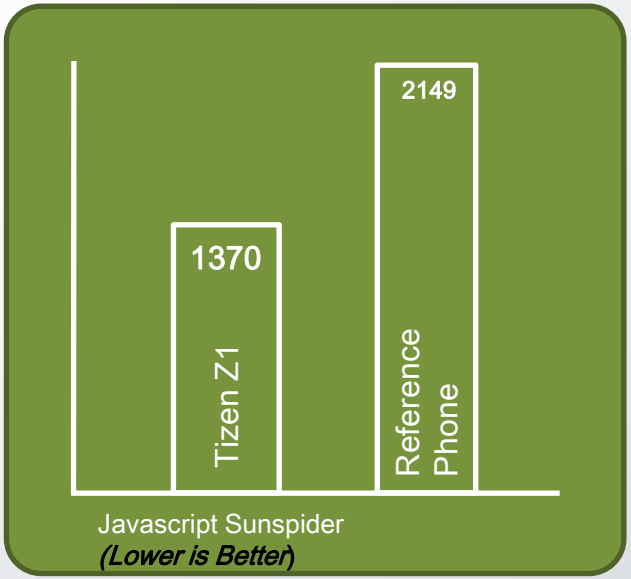


^ Reference Phone with same spec

Why Tizen? : Web support

- 2D Canvas and Sunspider Benchmark-





* Reference Phone with same spec

Why Tizen? : Best 2D/3D graphics

- 2D Graphics: Cairo H/W Acceleration
- 3D Graphics: WebGL support

OpenGL|ES WebGL™

2D Canvas perf. score

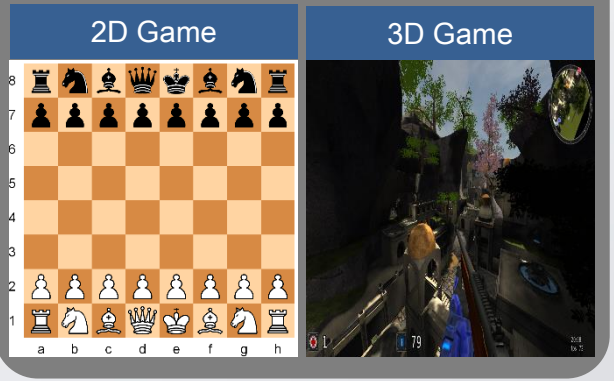
3.49 2.80*

WebGL (Aquarium : fps)

60 28*

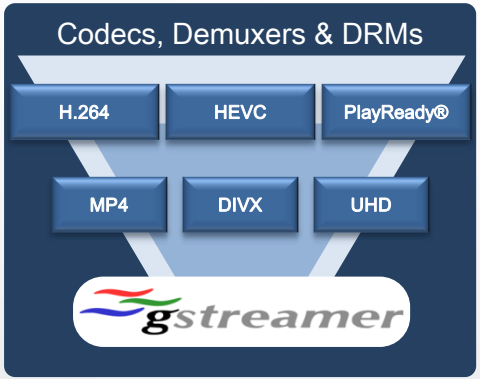
* Stock Browser @Reference device

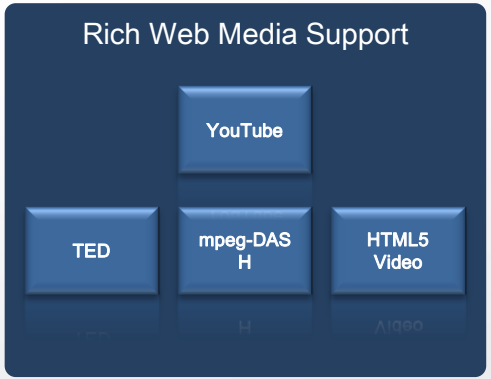
Web Game Applications



Why Tizen? : Rich Multimedia support

- High Quality Video Playback based on Plug-in Architecture
  - Play almost every media formats without transcoding
  - Rich media support for Browser and web applications





Why Tizen? : Multiple Game Engine Support

Full List → https://wiki.tizen.org/wiki/Game_development

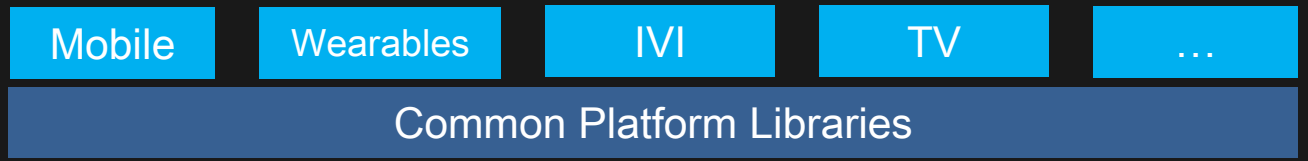
Why Tizen? : Tizen Store

- Single app store for multi profile devices
- Developer friendly Tizen Store Seller Promotion
- Available in 182 countries.

Tizen Device Profiles

Device profile

- Profile is a device specific extension to Common Platform
- Common Platform is common in all devices
- Profile has device specific optimizations.
- Mobile and Wearable profiles are released, TV profile is ready
- Refrigerator, IoT, and other profiles will be released in future.



Device profile – device specific optimization

Mobile

Telephony & Messaging Services

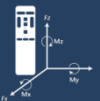
Rich Connectivity, Location service

Touch Navigation

Sensors

Rich Connectivity
Battery Consumption

Wearable



Gesture Controls, Health Care

Host device connected services

Simplified UX, Voice Recognition

Low Form factor
Health Sensors

TV*

Broadcast & Secured A/V Play

TV A/V inputs & I/O devices

Focus Navigation, Web Controls

Big Screen Display
Home Center

IoT**

Intelligent N/W abstraction

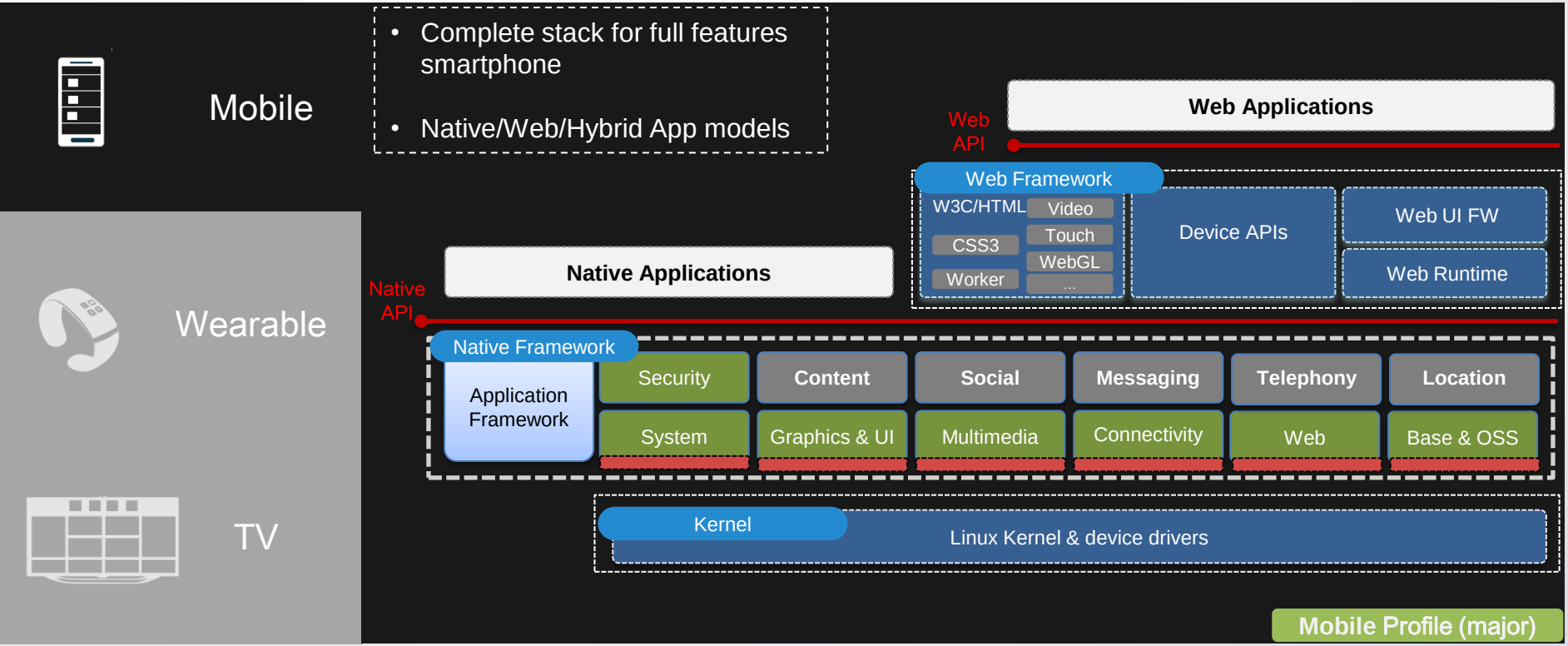
Device to Device communication

Intelligent Convergence Services

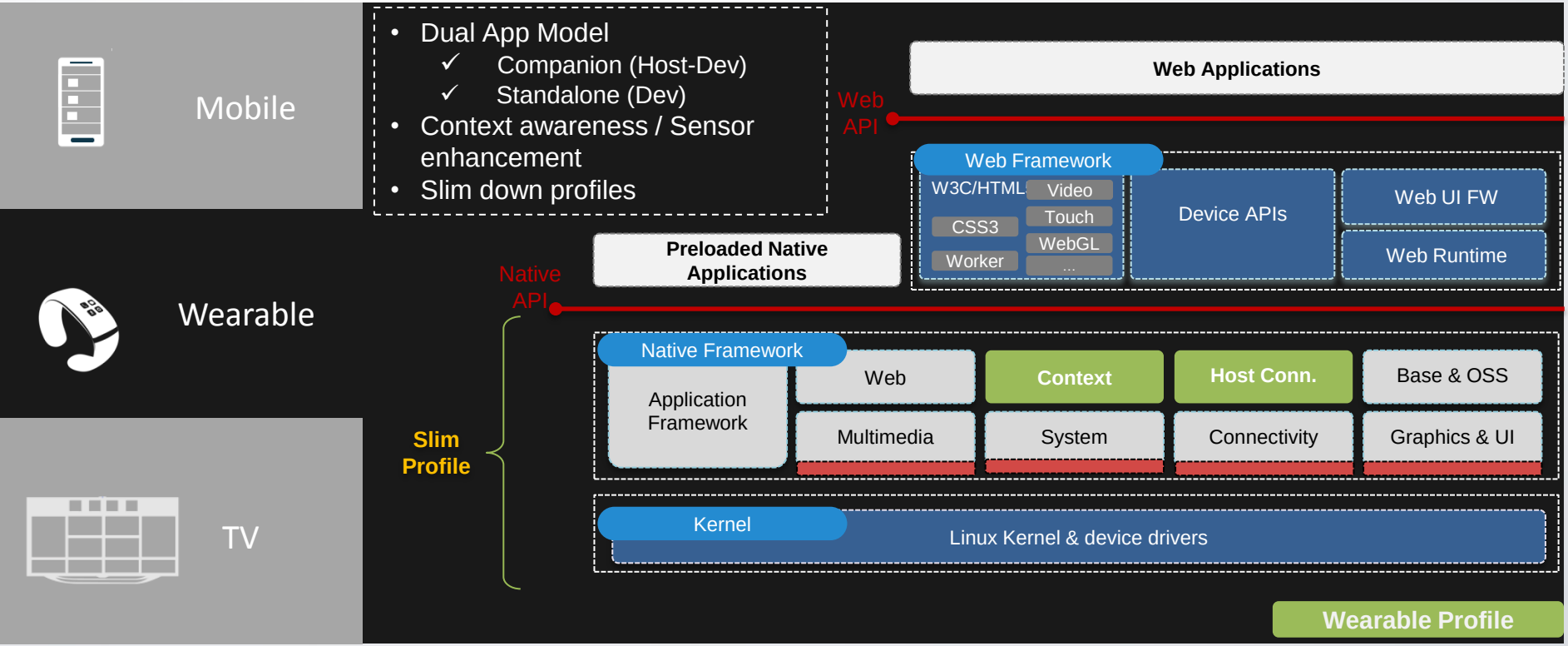
Networking of Things
Intelligent Sensors

* TV profile will be released in Tizen 3.0
** IoT framework will be released in Tizen 3.0

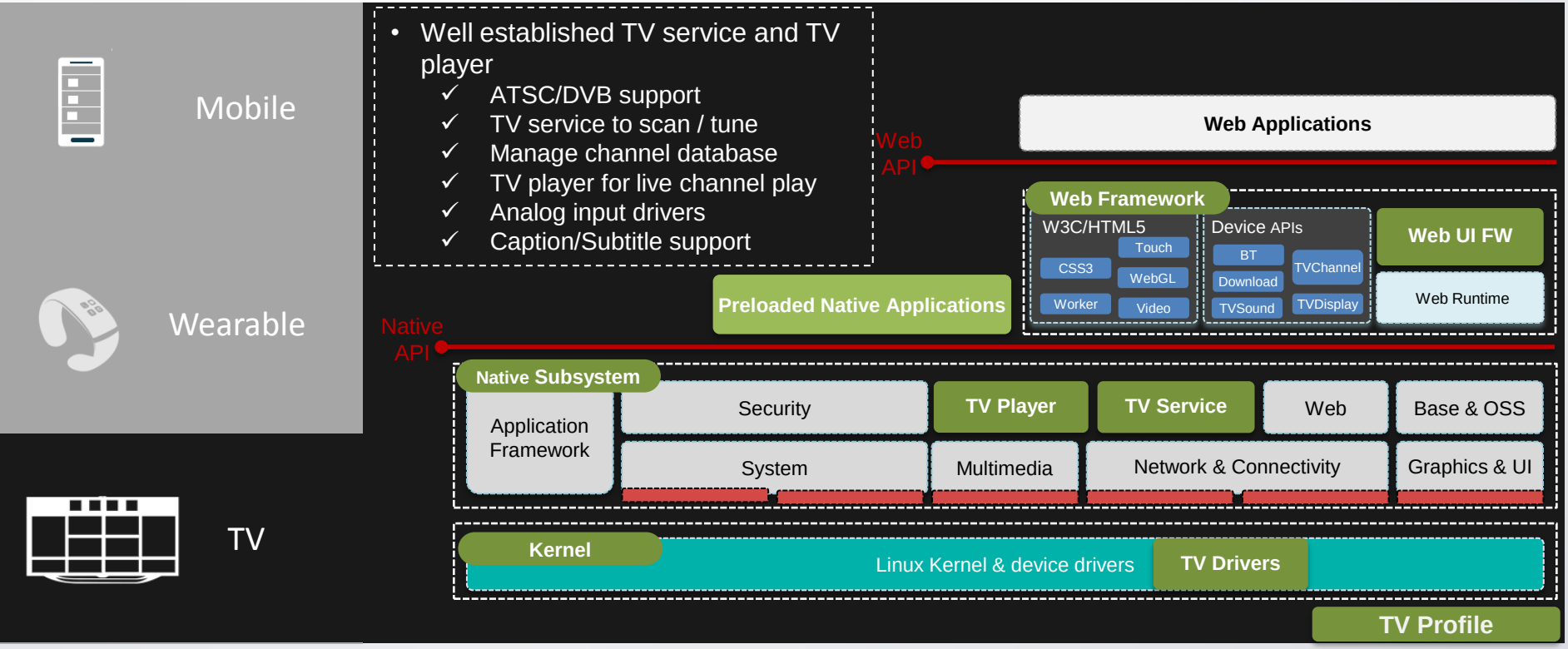
Device profile – Mobile profile



Device profile – Wearable profile



Device profile – TV profile

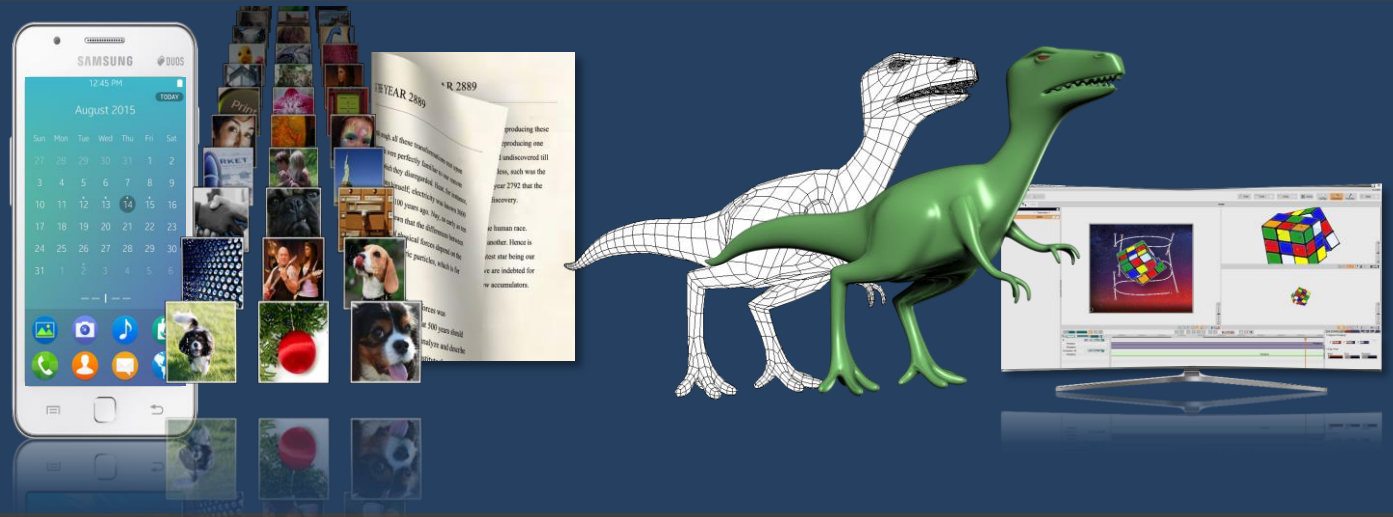


* EPG – Electronic Program Guide

Tizen 2.4 | Enhanced Features

Tizen 2.4 - Enhanced Features

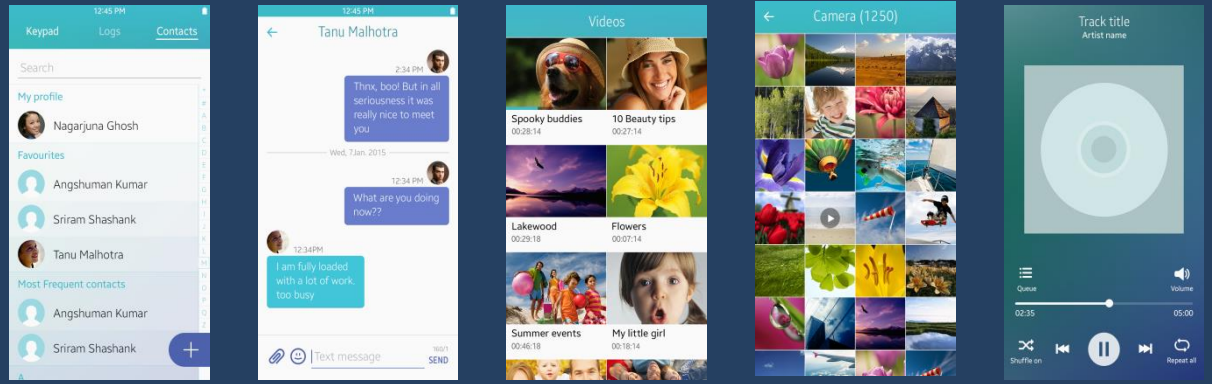
DALi 3D Ui Editor and Engine



- ✓ Allows 3D object rendering with ease.
- ✓ DALi provides built in effects like page turn, particles , gaussian blur etc.

Tizen 2.4 - Enhanced Features

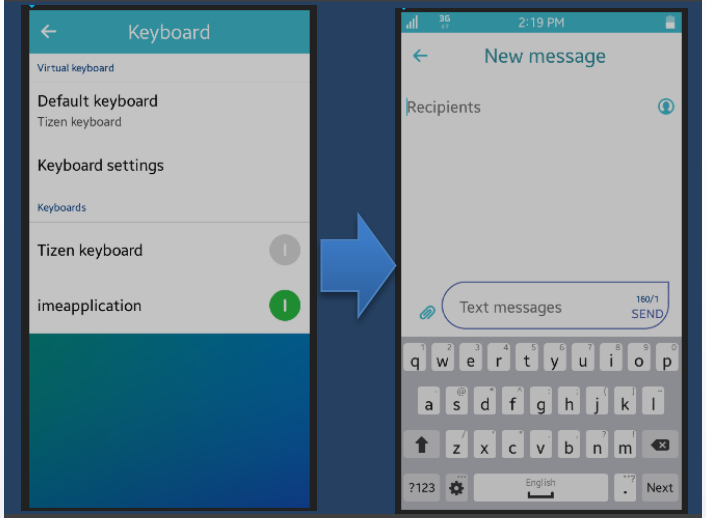
AIR UX



- ✓ New UI Design philosophy in Tizen enables more user friendly and intuitive UX.
- ✓ Provides a rich and fulfilling UI experience.

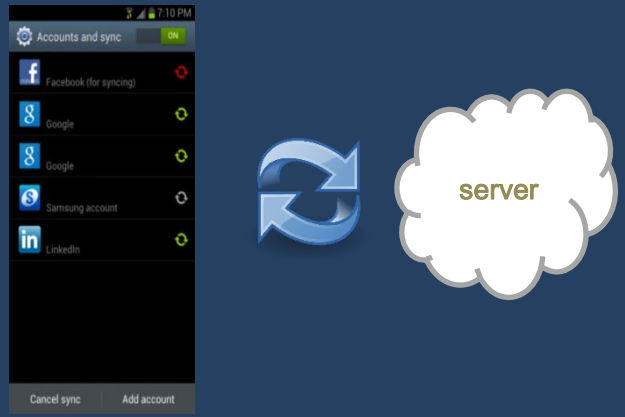
Tizen 2.4 - Features

Native & Web IME API



- ✓ For 3rd party keyboard developers
- ✓ Allows creating custom keyboard

Sync Manager

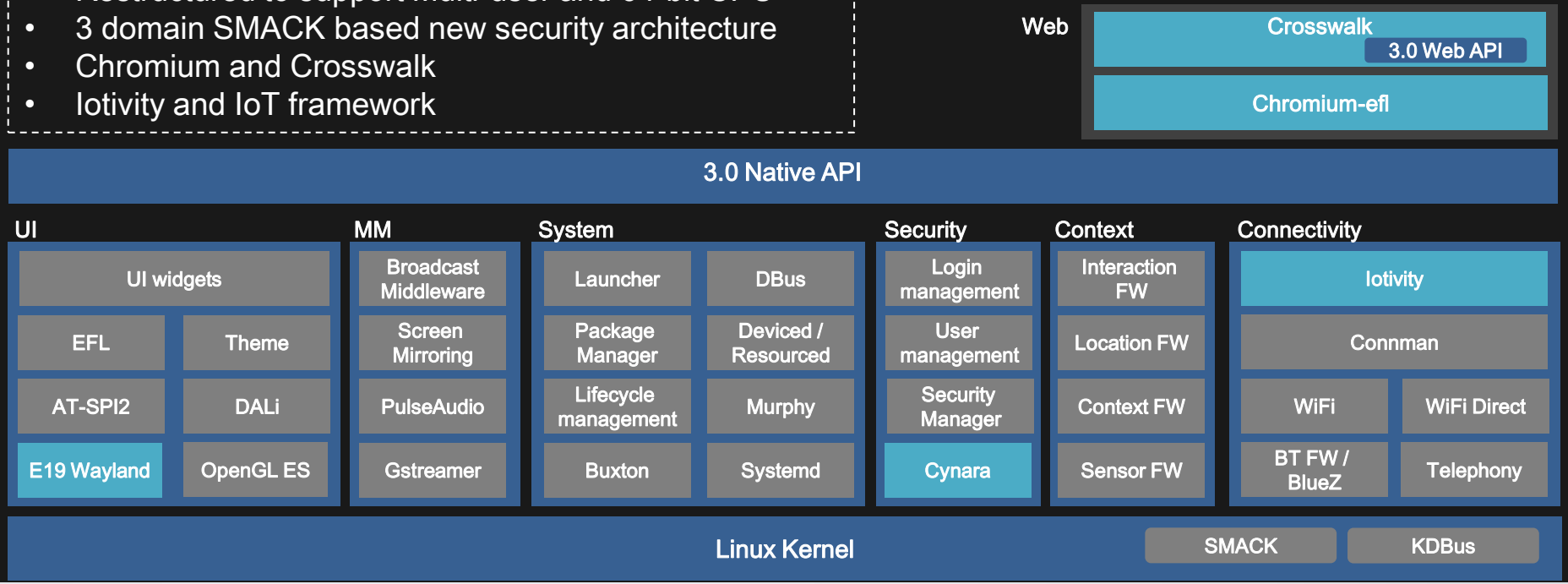


- ✓ Allows to schedule sync requests
- ✓ Option for periodic and on-demand sync.

Tizen 3.0 Overview

Tizen 3.0 - overview

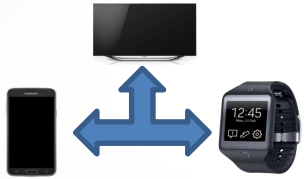
- Better performance through Wayland and KDBus
- Restructured to support Multi-user and 64-bit CPU
- 3 domain SMACK based new security architecture
- Chromium and Crosswalk
- Iotivity and IoT framework



Tizen 3.0 – What it Offers

Tizen 3.0

Convergence



Increased Performance

Wayland

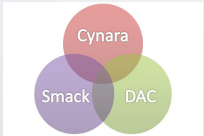
Modern Web Technology Support

CROSSWALK

Multi user Architecture and 64 bit Support

64 bit

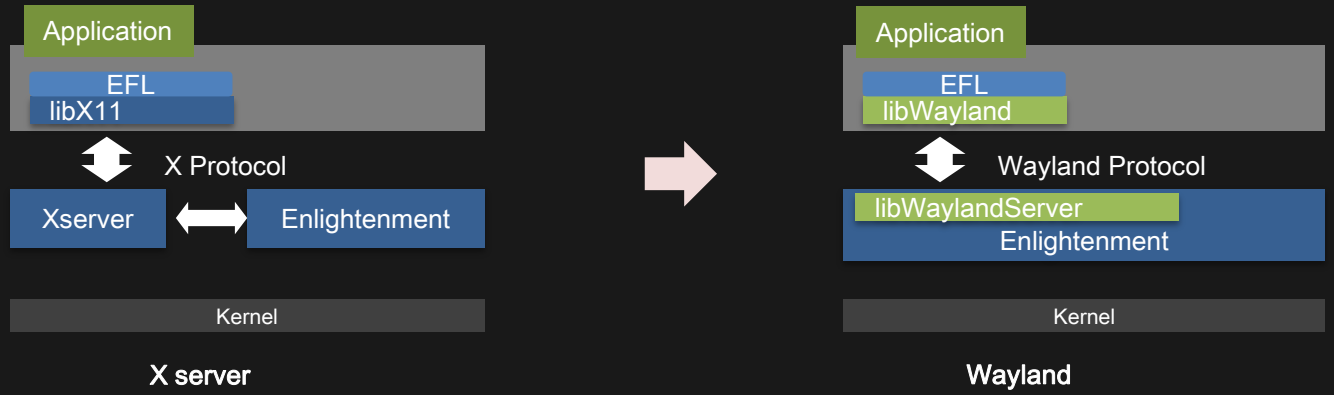
Enhanced Security



Micro Profile

Tizen 3.0 - performance

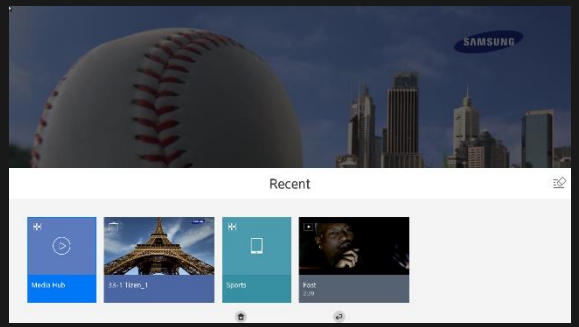
Better performance through Wayland



More than 30% improvement in response time and computation efficiency

Tizen 3.0 – multi-user architecture and 64bits

User contents will be protected by multi-user architecture
(easy personalization)



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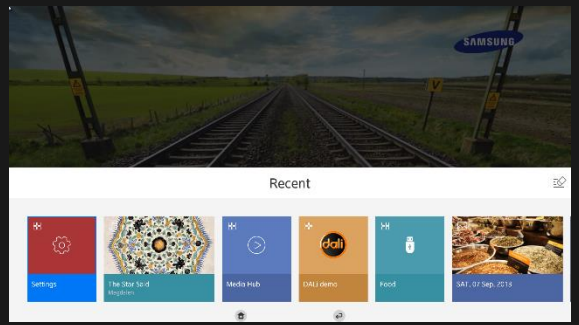
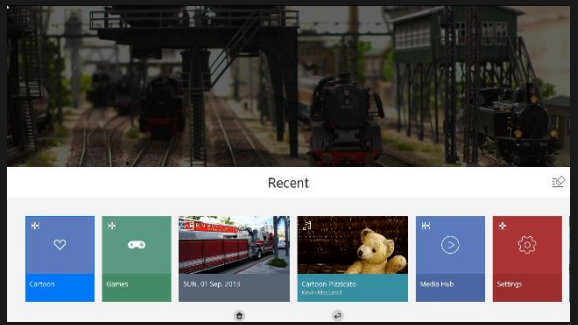


<mom>



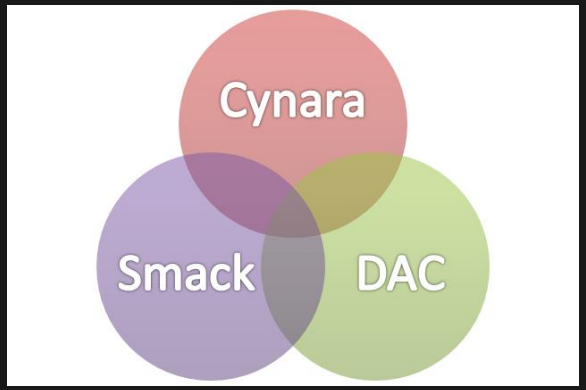
<kids>

Tizen 3.0 - Micro Profile

- Targeting Devices With Connectivity But No Display
- Minimized Profile With Device Common Features & Programmable App (JS-based) Supporting

Tizen 3.0 – 3 domain SMACK

Developer don't need to write his own SMACK rule
(security system will auto-generate SMACK rule for each module)



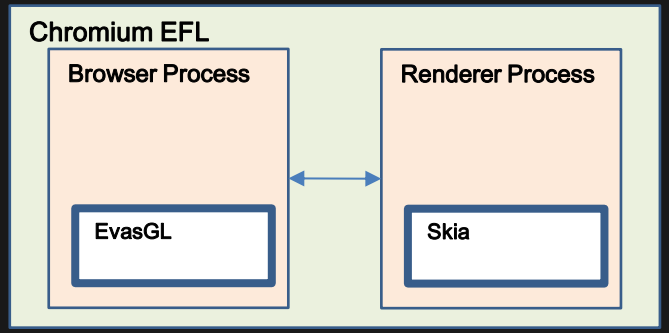
<new security model>

Floor	System	User
• RO system directories • Kernel helpers	• /run, /dev, /var/log • System services	• Home directories • Launcher and user services

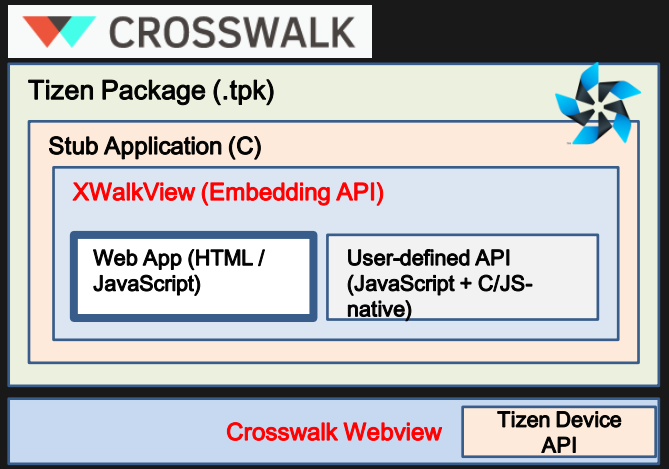
<3 domain>

Tizen 3.0 – Chromium and crosswalk

Modern web technology is integrated into platform



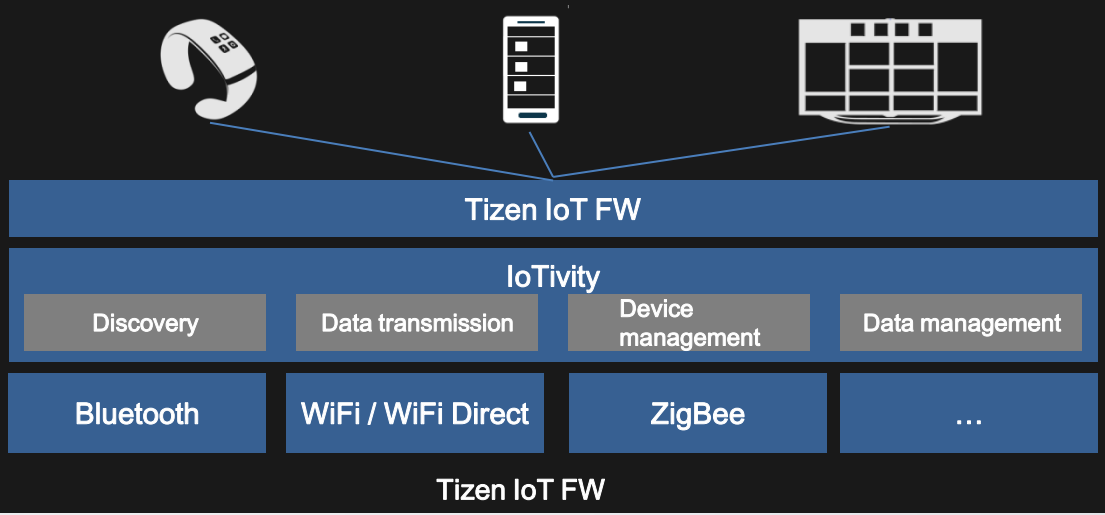
<Chromium EFL>



<Crosswalk Tizen port>

Tizen 3.0 – Device Convergence (IoTFW)

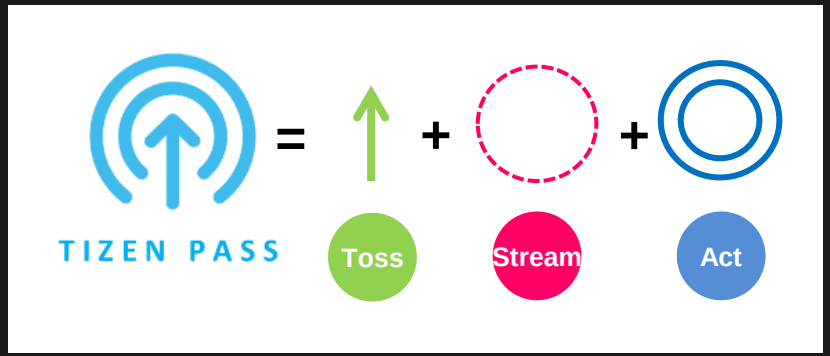
IoTivity is integrated into platform and simplified interface is provided by IoT FW

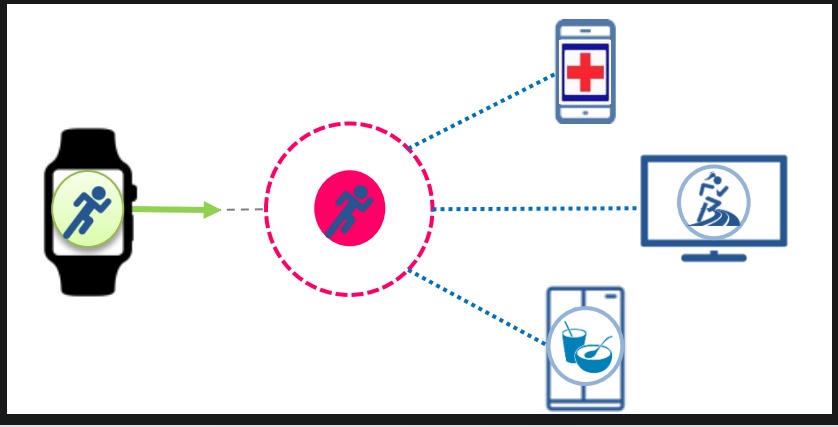


Tizen 3.0 – Device Convergence (TIZEN PASS)

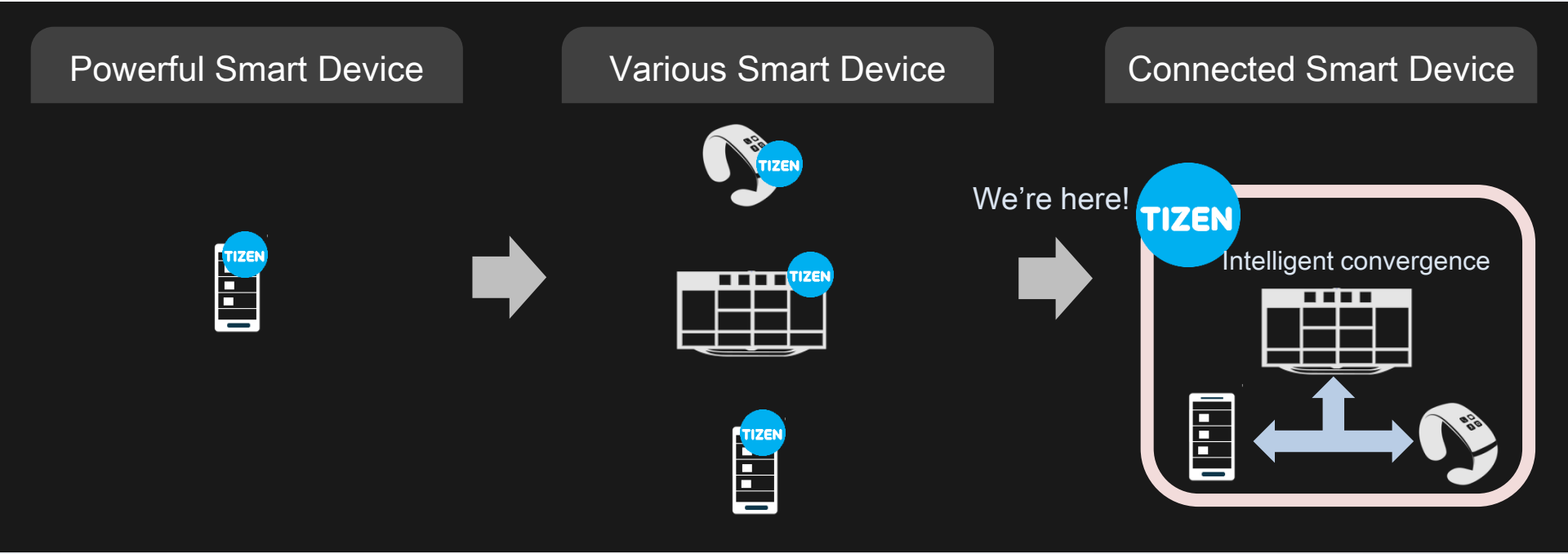
Providing TIZEN PASS API for sharing data between Tizen Devices.
Remember 3 steps -

- Toss the data.
- Share the data in stream.
- Act with the data.

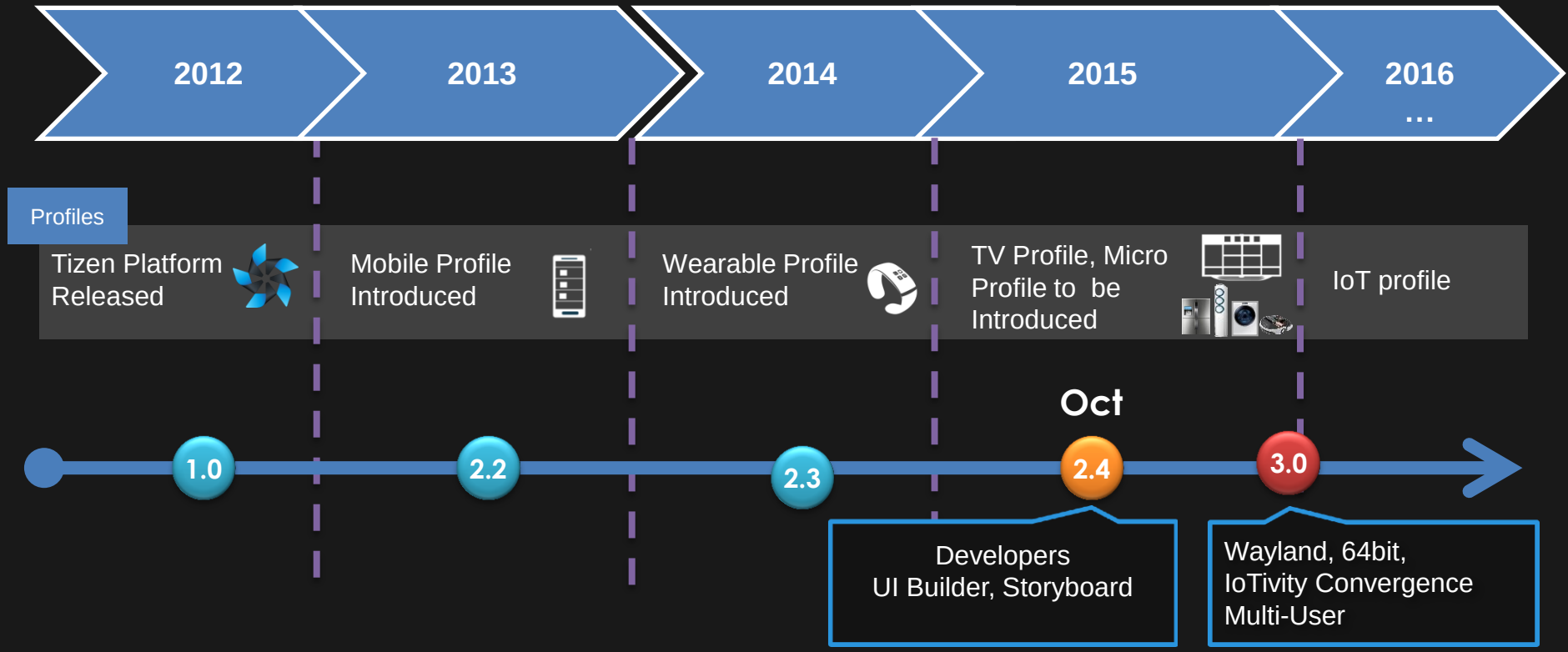




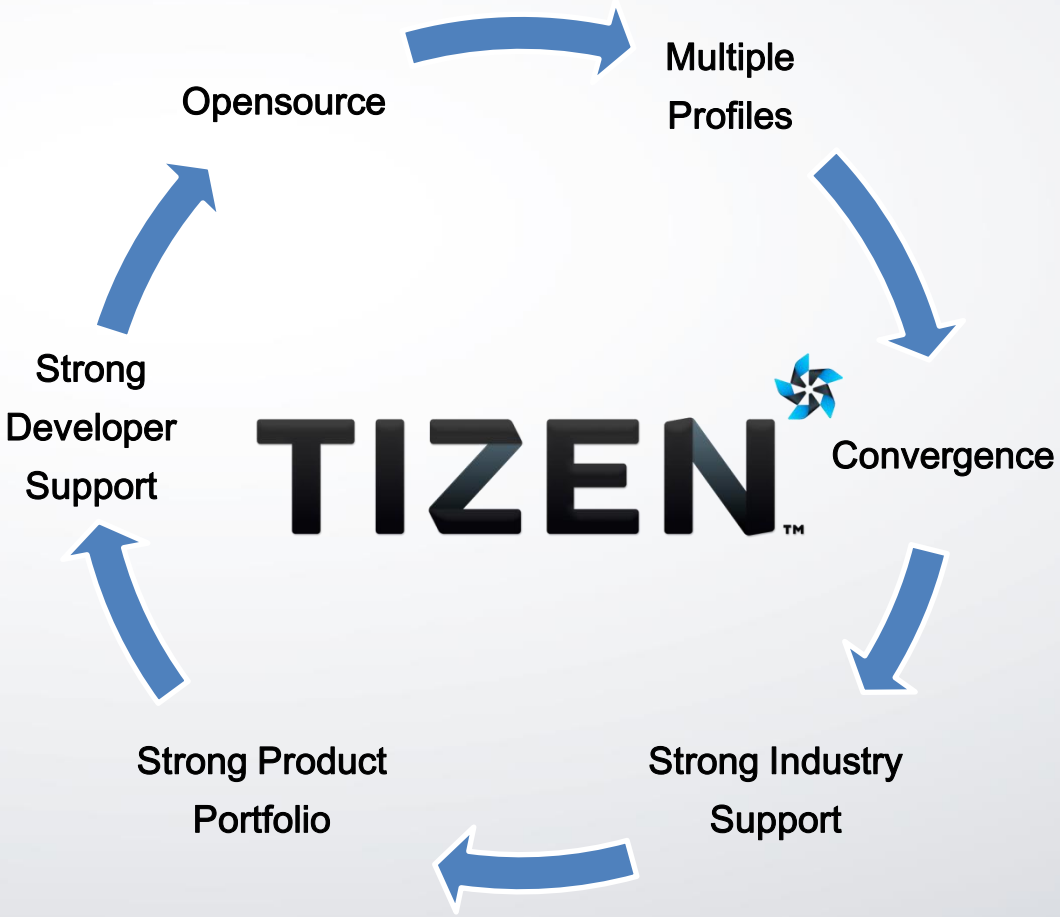
What's next? (1/2)



What's next? (2/2)



Conclusion


Opensource
Multiple Profiles
Convergence
Strong Industry Support
Strong Product Portfolio
Strong Developer Support
TIZEN™