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**Internship title:** CPU core benchmark in complex STB

**Job title:** SW Engineering

**Internship description**

CPU core benchmark in complex STB

Contexte

Android TV STBs (Set Top Boxes) are more and more powerful with more and more integrated cores in the CPU.

It allows more powerful applications, like gaming, to be executed in such environments.

In addition, the STB integrates advanced network features like dual band concurrent Wi-Fi repeater; with 802.11ac technology, high data throughputs must be supported.

But

Compare the performances of different CPU configurations: 2 cores, 4 cores...

Analyze the behavior and the CPU consumption of different services and applications such as the Wi-Fi Repeater service, YouTube, Netflix, operator applications, games.

Analyze the Linux kernel scheduling behavior.

Identify solutions for solving real time issues.

Description des activités confiées au stagiaire

With the support of engineering teams (France, China, India), define and realize CPU benchmarks according to real use cases:

- Select the most appropriate tools either Linux-based or from the Android SDK
- Wi-Fi network setup with GW, STB and Wi-Fi devices
- Application or SW tools execution
- Performance monitoring

- Linux scheduling behavior analysis and tuning
- Possible extension to traffic shaping, or resource allocation based on SELinux.

The study will be done on existing Technicolor's Android TV STB.

**Keywords:** CPU benchmark, Linux kernel scheduling, real time environment, STB, Android TV

**Candidate profile :**

Profil du stagiaire

CPU real time environment

Linux scheduling

Android OS

Network technology (Ethernet, Wi-Fi)

Fluent English

Niveau d'études requis : BAC+4, BAC+5

Profil du stage : Computer science, System & Com network, SW engineering

**Required skills:**

CPU real time environment

Linux scheduling

Android OS

Network technology (Ethernet, Wi-Fi)

Fluent English

**Fluent english:** Yes

**Internship duration and dates**

Internship duration: 4 months

Estimated starting date: 1/2/2019

Estimated end date: 6/30/2019

**Internship place:** Rennes