How the ARM32 kernel starts

My previous article on how the kernel decompresses generated a lot of traffic and commentary, much to my surprise. I suppose that this may be because musings of this kind fill the same niche as the original Lions' Commentary on UNIX 6th Edition, with Source Code which was a major hit in the late 1970s. Operating system developers simply like to read expanded code comments, which is what this is.

When I’m talking about ARM? the proper ARM name for this is Aarch32 and what is implemented physically in the ARMv4 thru ARMv7 ARM architectures.

In this post I will discuss how the kernel bootstraps itself from executing in physical memory after decompression/boot loader and all the way to executing generic kernel code written in C from virtual memory.
Linus Walleij continues his exploration of the boot process for the 32-bit Arm kernel.

**Edge IoT Gateway Powers Networks in Smart Factories, Smart Cities**

In case you wonder if Arm Cortex-A8 processors are still getting used in new products, you’ll be glad to learn AAEON has just launched SRG-3352 Edge IoT Gateway based on an unnamed Arm Cortex-A8 processor @ 800 MHz and designed to power networks for Smart Factories, Smart Cities, and more.

**ODYSSEY-X86J4105 SBC Review with Ubuntu 20.04 ? Raspberry Pi & Arduino Headers Tested**

We’ve already reviewed ODYSSEY-X86J4105 SBC with Windows 10. When combined with Re_Computer enclosure it’s a typical Intel Gemini Lake mini PC but with a twist: Arduino and Raspberry Pi header. The latter works fine in Windows, but at the time, the Raspberry Pi header does not. So Linux is our only option.

I’ve now had time to install and test Ubuntu 20.04 on ODYSSEY-X86J4105 single board computer. I did not install Ubuntu on the internal eMMC flash where Windows 10 resides, but instead on a 128GB M.2 SATA SSD. I’ll first run some usual command to check system information, then run benchmarks, and check whether all features are working before focusing the review on the Arduino and Raspberry Pi headers.

**DIY shadow box portrays seasons in luminescent style**

Centas wanted a project for his new laser cutter, and decided to make this beautiful crafted tree shadow box. While the cutting is impressive enough by itself, to take this from cool? to ultimate, he added 86 individually controllable LEDs and a bundle of fiber optic cable for lighting effects.

These LEDs are powered by an Arduino Nano, along with PCA9685 driver boards, in order to tell the story of the changing seasons. Leaves appear and fall, complete with birds, blossoms, and apples. There’s even Christmas lights wrapped around the trunk and branches when appropriate for a festive accent!

**Keyboard FeatherWing Brings Keyboard & Display to Adafruit Feather Boards**
Solder Party is a brand new Swedish startup founded by Arturo182 who previously designed several maker boards including the tiny Serpente R2 CircuitPython prototyping board, and its first product, named Keyboard FeatherWing, brings a QWERTY keyboard and 2.6\" color LCD with resistive touch screen to any boards compatible with Adafruit Feather for factor.

That means you can build a portable device that runs Linux via the Giant Board, features an FPGA (Orange Crab), or a wide range of connectivity options including WiFi, Bluetooth LE, LoRa, etc? depending on your chosen board.

**GNU Linux Hardware**

Source URL: [http://www.tuxmachines.org/node/141139](http://www.tuxmachines.org/node/141139)

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[5] https://lwn.net/Articles/829052/rss