Article Side

New Beta Boards: Accessible to hackers by Eccuni

Article published on January 3rd 2012 | Internet

Some talks were made at Black and Hat and also at DefCon. Both happened early in August. Some of the researchers of security were using an open source named Arduino boards in their works. The definition of Arduino is "strong friend" in Italian. Arduino is certainly useful for reasearchers in security considering they help for fast trial product testing of different tools in hardware analyzing. The Arduino also passed the penetration testing they have used making it reliable. The recent Arduino realease includes a 54 digital output and input pins, serial connectivity, with a memory with the maximum of 256KB, power, and an USB interface which is reprogrammable for program uploads. Arduino announced in September that they made an hardware which is an open source which they will target ARM prototyping. The model with a complete TCP/IP stacks are the type which they are targeting.

The circuit boards made by Arduino are easy to use and is easy to configure in order to control the motors, lights and some other actuators. In their company sites, different projects were posted which includes robot that follows lines, switches and RBS lights, intrusion alarm, thermostat, a bug zapper which can tell and show you the count of bugs that was zapped and the average zap time, Pee and Poo detector that is also has Diaper Shield, specifically for babies, and a robot which is a photovore which chases where the brightest light source is located. These different projects are made with the language programming Arduino (based on a Wiring project which is an open source) and the development environment Arduino which is also open source (based on a Processing project which is open source).

Arduino are avaible for purchasing from different third parties or from directly the company. This also includes the different programs which are already installed. Although, some of the researchers who specializes security likes to go beyond the limitation rather build their own. An example is shown at DefCon in which Steve Ocepek showed the "Blinkie Lights: Arduino with Network Monitoring". He used a board which is made by Arudino, multicolored LED matrix which measures as 8 x 8 and a program in network monitoring in order to make the network, that is LED-based, to be around $60 and make it low cost. Although this is a small example, it is no surprise if Arduino and different boards are used in the future in different security conferences.

The first ever ARM-based development system which is also single-board is the Arduino Due. Arduino Due offer a Cortex-M3 SAM3U 32-bit ATMEL ARM-based processor which is running at a 96MHz. Similar to the basic version which is already available, Arduino Due also includes 256KB flash memory, 50KB SRAM, 5 SPI bus, 5 UARTs, 2 I2C interface and varying 16 input analougues which are offers at least 12-bit resolutions.

Arduino Due is their first single-board ARM-based development system. Considering the Ardunio Due is a big change from their usual style, it will be expected that the Due will go through beta testing with selected and different developers. In the famous Maker Faire, a unique edition was made or the Developer Edition which is available for those who wants to shape and change the final and absolute design. The company actually said and promised they the product will be sold before the year ends.

Also, Arduino company announced that they will have a new one called Arduino Leonardo. Arduino Leonardo can stimulate keyboards, serial ports and mouse. There is also the Wifi Shield that Arduino made. Wifi shield, that Arduino made, can add more capabilities in wi-fi to Arduino board.

Micro module ,that is wifi is, used in the board with an AVR32 processor. The processor has a TCP-IP stack. The micro module, that is wifi is, made by the H&D Wireless.

Different tools that are open source and boards like Arduino board are available in the Internet. The time announcing it would really seize the nation's resources to discover the weaknesses in different pieces and parts of hardware especially in a special healthcare environment or a control system that is industrial can disappearing rapidly. When the vendors of a particular product don't test or do some trial on the products before putting it in the market are really destined to be criticized harshly. The vendors should at least do a pen test on the product in order to secure a viable guarantee on the quality of the product. They could undergo penetration testing training in order to do the right procedure on testing the product. This could be a lesson and in the future they could handle with responsibility the security disclosures and they will learn a lesson from the products like the Arduino.

Article Source:
http://www.articleside.com/internet-articles/new-beta-boards-accessible-to-hackers.htm - Article Side

Eccuni - About Author:

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Article Keywords:
Beta, penetration testing, penetration testing training, pen test, hackers, Arduino board, healthcare, TCP/IP, RBS lights, intrusion alarm, thermostat, bug zapper, Poo detector, Diaper Shield, LED matrix, security conferences, flash memory, TCP-IP stack,

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