

Weekly report: Week 4 of dissertation for Uninett AS on authentication in IoT

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Activities

Monday January 21

Aruba Networks could not guarantee a release date for ClearPass 6.8, which is required for the mPSK solution. Therefore, we contacted both Ruckus Networks and Aerohive Networks, inquiring about the possibility of getting a trial version of their equivalent technologies, as well as borrowing a compatible access point. We are awaiting their response.

We brought a Raspberry Pi, but sadly forgot the SD card.

Tuesday January 22

We continued to brainstorm the Raspberry Pi solution and developed a mockup of the splash screen that will be displayed to the user. This splash screen currently includes four screens: 1) Terms & conditions, 2) credentials (where the user enters their Eduroam username and password), 3) "Attempting to connect..." and 4) "Connected".

Wednesday January 23

We attended a meeting with Jørn, Otto and Stein and presented the two candidate solutions. The meeting uncovered a few flaws with the Raspberry Pi solution, including the tendency of Raspberry Pi machines to crash after long sessions, compatibility issues between Raspberry Pi and Wi-Fi dongles, the need for two radio antennas and the need for personalized images (on account of the user's certificate having to be installed on the Raspberry Pi). We were advised to contact Aruba to inquire about access to a beta version of ClearPass 6.8, and to contact Ruckus and Aerohive again through an Uninett email address. We were also advised to see if Ubiquiti offers a similar solution, and to see if Arduino Yun could be a better alternative to Raspberry Pi.

After the meeting, we found out that there is a third provider of the unique PSK solution: Riverbed (*User-PSK*, or *UPSK*, is part of their EasyPass product). We researched this solution as well and decided that we would contact them along with Ruckus, Aerohive and Aruba. We found that Ubiquiti does not offer a unique PSK solution.

January 27, 2019

Magnus Bakke & Liang Zhu

Liang brought his Raspberry Pi, including the adapter for the SD card, so we could experiment with using it as a hotspot.

Friday January 25

We searched for dual band Wi-Fi adapters that would be compatible with our hotspot solution and with Raspberry Pi. This is not an easy task. We tested a few and found none that were compatible. We found one potential candidate that Liang will attempt to acquire.

Saturday January 26

Magnus worked on the prestudy while Liang tested the Wi-Fi adapter. It was not compatible. We continued to search for candidates.

Remarks

We have written a progress plan for the entire project's duration. It can be found in the shared Drive folder (at https://drive.google.com/open?id=1X_DTKjwykeXvlkXOBTTjD9HA3ghJXJP6). At this time, we are feeling confident that we will be able to produce a working solution on time.