

## Bachelor/Master Thesis

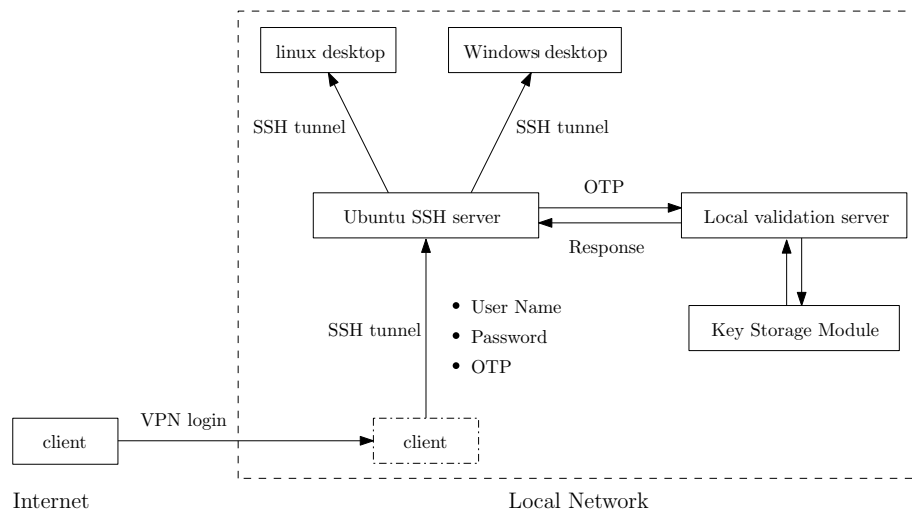
### A Secure Remote Access System with Strong Two-factor Authentication Mechanism

**Research field:**

Communication networks, Remote access

**Keywords:** 2FA, SSH, USB Token

**Discription:** Remote access to a network or a certain computer is highly required in nowadays' life. For example, one may need to access to his office network from home in order to continue his work. Therefore, the security of this access is extremely important as we do not want an unauthorized person to enter our system. Two-factor Authentication (2FA) mechanism provides us an extra layer of security, which may be a good way to keep the unauthorised person out.



**Goal:** The goal of this project is to set up a network with 2FA mechanism and test different combinations of security protocols. For example, the combination of one time password (OTP) and logging information, as shown in the figure.

**Prerequisites:**

- Strong interests in network set-up and control
- Knowledge of computer networks and Linux based systems
- Skills in C, Java, C++, Python and PHP

**Supervisor:** Qinwei He, Room 336, ICT cubes, Email: he@umic.rwth-aachen.de, Tel: +49-241-8020756