

PhD Thesis Errata

On page 14, the following subsection should be added:

1.6 Aspects of Sustainable Development and Ethics

It is a collective responsibility of all human beings to protect the environment for future generations, something which is an important part of sustainable development. Sustainable development should ensure that present needs are met without compromising the environment for future generations. Furthermore, sustainable development can be divided into three categories: economical, ecological, and social sustainable development.

In this thesis we aim to address some challenges of NFV in order to make it a viable solution for future communication infrastructures. We believe that a successful NFV solution can contribute to sustainable development. NFV enables to run multiple network functions on one or more commodity servers. A consequence of this is that large amounts of special-purpose, hardware-based middleboxes can be replaced with commodity servers. This is likely to reduce the total amount of hardware needed, which means that both money and space can be saved, something which is related to economical sustainability. Moreover, energy is likely to be saved by reducing the amount of hardware needed for network operations. Energy saving is relevant both from an economical and an ecological sustainability perspective.

We believe that our work on Carenet [126,127] also has relevance from a social sustainability perspective. It is due to the fact that robust and efficient remote healthcare systems are actively discussed in the healthcare sector and new solutions are sought. Remote healthcare systems have the potential to make healthcare services more affordable and available, in particular in less densely populated areas. We also see an ethical perspective of Carenet. The healthcare system is deployed on residential gateways, which also process Internet traffic. It is therefore important that the health and medical information of patients is properly protected and that it does not get exposed to unauthorized persons. To ensure this, we encrypt Carenet traffic and run Carenet services on isolated containers on residential gateways.