

NFD Control Center GUI Improvement

Qi Zhao, Alex Afanasyev ({qi.zhao, aa}@cs.ucla.edu)

Motivation

NFD Control Center is an application with GUI supporting NDN developers and users to manage NFD and NDN security. Users does not need to memorize all different kinds of command any more and it provides accessibility to NFD management and NDN certificate management tools by just clicking the mouse. The goal of NFD Control Center application is to simplify the usage as much as possible and provide users convenient way to use NDN.

However, two core components in NFD Control Center are implemented with very simple GUI design currently, especially for NDN certificate management. It only implements the functionalities without considering any GUI designing. Therefore, we need to make better design and implementation of the GUI to simply the usage and attract more users (definitely at least not frighten them away from using NDN). Also the NFD management can be improved to provide NDN developers and users an integrated and easy-to-use NFD Controller application.

Contribution to NDN

It will not only make the NFD Control Center application look better, but also simplify the usage of NFD management and NDN certificate management for NDN developers and users.

Tasks

A. NDN certificate management

- 1) Redesign both the client and CA window. Show the list of identity and certificate in a better way. Move operation button to right-click menu.
- 2) Redesign the certificate application window. Put all steps into one integrated window to show the current rate of progress.

B. NFD management

- 1) Redesign FIB and RIB display from list to tree.
- 2) Add the feature that can show the Face information when checking the specific FIB or RIB entry.
- 3) Move management operations to the right-click menu on each Face, FIB, RIB and strategy entry.

Required Knowledge for Participants

C++, Qt (or other GUI design framework)

Expected Outcome

Finish improving the GUI of NDN certificate management and NFD management. Make most of the hackathon attenders feel it is convenient and easy enough to use.