ndnSIM: Current Status & Latest Advancements

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What is ndnSIM?

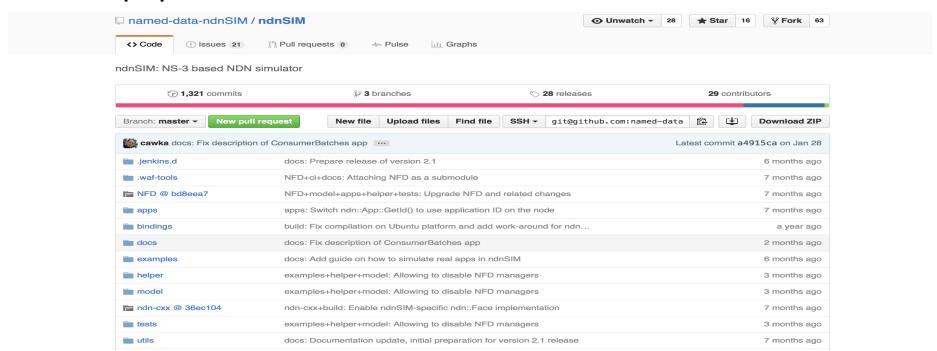
- An open-source common framework to perform NDNrelated experiments
- A platform to conduct large-scale NDN experiments
- Based on the NS-3 simulator framework
- Implemented in a modular way
- Extensively documented
- Actively supported

ndnSIM can...

- Run large-scale experiments in a simple way:
 - Initial topology and other parameters can be defined in a file
 - Stack helpers can adjust parameters of individual or multiple nodes at a time
- Collect detailed traces of NDN traffic flow and behavior of each forwarding component

Current Status

- ndnSIM has been used by many researchers across the world:
 - 63 public forks
 - 29 contributors
 - ~400 subscribers in the ndnSIM mailing list
 - ~260 papers have used ndnSIM



Recent Advancements

- January 2015: ndnSIM version 2.0:
 - Updated protocol specification
 - Updated packet format
 - Leverages the ndn-cxx and NFD cobebase
- September 2015: ndnSIM version 2.1:
 - Parallelize simulations using OpenMPI
 - Simulation of real applications written using the ndn-cxx library
 - ndnSIM specific implementation of the ndn-cxx Face
 - full support for NFD's RIB manager
 - applications have to fulfill the requirements listed here: http://ndnsim.net/2.1/guide-to-simulate-real-apps.html

Named Data Networking GitHub Organization

- Since the release of ndnSIM 2.1, we created a new ndnSIM organization on GitHub to host:
 - the ndnSIM source code
 - example applications/scenarios (<u>we would LOVE to host</u> <u>USERS' scenarios!!!</u>)
 - the ndn-cxx and NFD submodules used by ndnSIM
 - ndnSIM-related extensions (e.g., scenario template, python bindings)

Simulation of Real Applications

- Examples of real applications ported to ndnSIM:
 - ChronoSync: https://github.com/spirosmastorakis/scenario-ChronoSync
 - NDNS (partially working project of the first NDN hackathon): https://github.com/spirosmastorakis/ndns-scenario
 - Ping application from ndn-tools: https://github.com/named-data-ndnSIM/scenario-ndn-ping
 - NLSR: Coming soon...
 - ChronoSync 2.0: **Simulation code is ready!** Will be released as soon as the source code of ChronoSync 2.0 is released.

Additional Documentation

- Technical Report:
 - http://named-data.net/techreport/ndn-0028-1-ndnsim-v2.pdf
- Detailed documentation, with pointers to source code, installation instructions, and examples can be found on the ndnSIM website:
 - http://ndnsim.net/

Let's Keep in Touch!

ndnSIM Mailing List

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Please Join Us!



Thank you!