



Codebase and NDN Resources

NDN Services for
Tactical Networks
Tutorial

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Military Communications for the 21st Century
November 12-14, 2019 • Norfolk, VA, USA
Defining Multi-Domain Command and Control

Starting Point

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Defining Multi-Domain Command and Control


Named Data Networking (NDN) x +

← → ↻ Not Secure | named-data.net

Apps | libd | J | J2 | CS | TW | TT | Vencore | Car | F | LaTeX | NQ | NDN Call | Progress | USCIS | NeTS CORE 2018 L... | menu | Other Bookmarks

NAMED DATA NETWORKING


Project Architecture Codebase Testbed Publications Discussion



NDN HACKATHON

See the results of the 6th NDN Hackathon held in May 2018.


[Read More](#)



TUTORIAL VIDEOS

Watch tutorial videos about the NDN project and NDN technologies.


[Read More](#)



THE NDN TESTBED IS GROWING

The NDN research testbed is a shared resource created for research purposes, that now includes nodes in Asia and Europe.

[Read More](#)



NDN VIDEO FAQ

Questions about NDN answered on video by faculty, students, staff researchers, and colleagues.

[Read More](#)

Named Data Networking (NDN) Project Newsletter for Jan-May 2018

May 18, 2018 by CAIDA in [Newsletter](#) | Comments Off on Named Data Networking (NDN) Project Newsletter for Jan-May 2018

The NDN project team compiles and publishes this newsletter periodically to inform the community about recent activities, technical news, meetings, publications, presentations, code releases, and upcoming events. You can find these newsletters posted on the Named Data Networking Project blog.

Community Outreach

We held the 5th NDN Hackathon on December 16-17, 2017 at the University of California, Los

Events

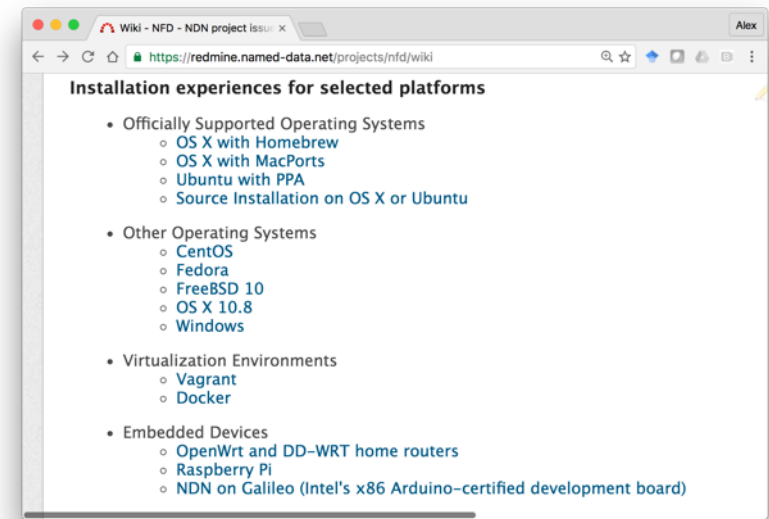
September 20-22, 2018
[ACM ICN 2018](#)
Boston, MA

September 18-19, 2018
[NDN Community Meeting 2018](#)
NIST, Gaithersburg, MD

Supported Platforms

- Desktop Systems
 - Ubuntu, OSX, FreeBSD and other Linux distributions
- Home routers
 - OpenWRT, DD-WRT
- Mobile:
 - Android, iOS (library only)
- IoT:
 - Arduino, ESP8266, RIOT-OS
 - Raspberry Pi (runs NFD, available binary packages)
- Web browser
 - NDN-JS library + microforwarder

<https://redmine.named-data.net/projects/nfd/wiki>



Where to Find Source Code for NDN Codebase

- Github organizations
 - <https://github.com/named-data>
 - NFD, core libraries, and other general use software
 - <https://github.com/named-data-mobile>
 - Android and related software
 - <https://github.com/named-data-iot>
 - IoT related software
 - <https://github.com/named-data-ndnsim>
 - ndnSIM core, example and real simulation scenarios

NDN Codebase Overview

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Defining Multi-Domain Command and Control

Infrastructure Software

NFD

NFD-
android

NDN-
RIOT

μNFD

NDN
Tools

NLSR

Repo-ng,
repo-sql

NDN
Control
Center

NDN Libraries

ndn-
cxx

NDN-CCL (JS,
Java, Python)

NAC

ChronoSync

PSync

Vector
Sync

NDN-
RTC

Apps

ChronoChat

ndns

ndncert

ndn-
flow

NdnCon

ndn-fs

ndn-
atmos

Many
others

Evaluation Frameworks

ndnSIM

miniNDN

NDN Testbed

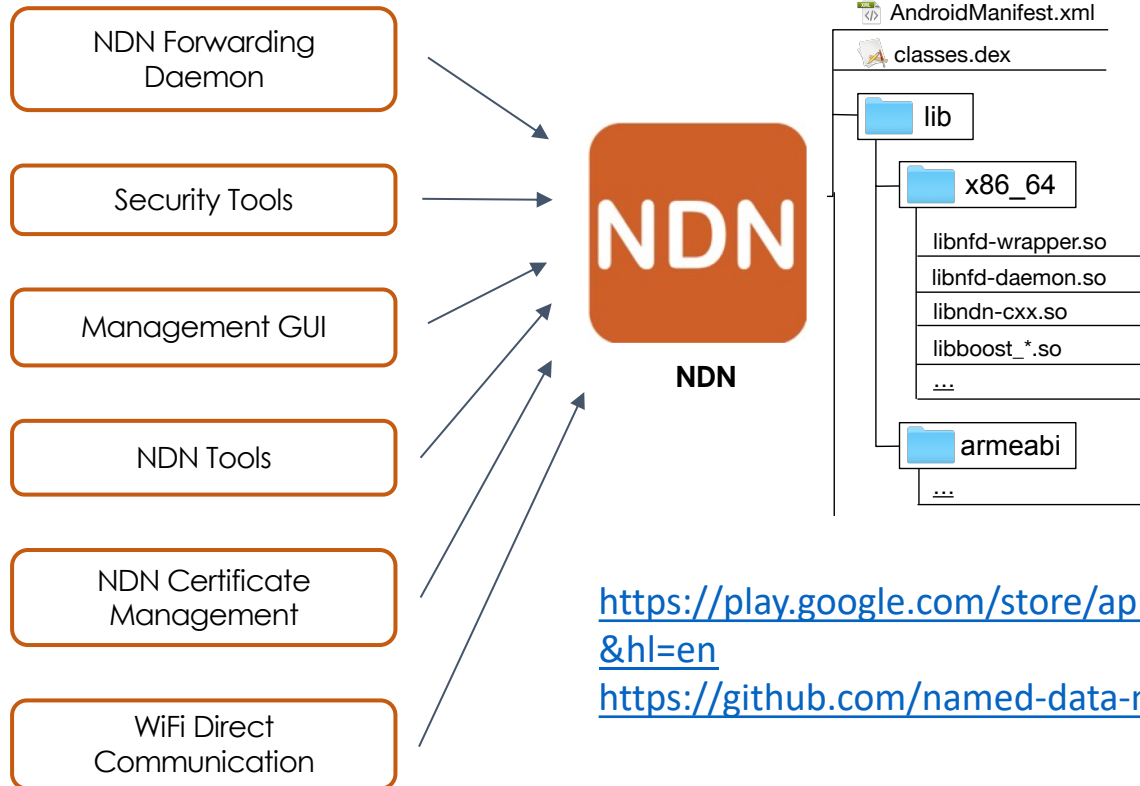
NDN-Android: NDN Stack for Android

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- Embeds actual NFD, compiled using NDK
- Works with all (non-rooted) Android devices

https://play.google.com/store/apps/details?id=net.named_data.nfd&hl=en

<https://github.com/named-data-mobile>

App Codebases

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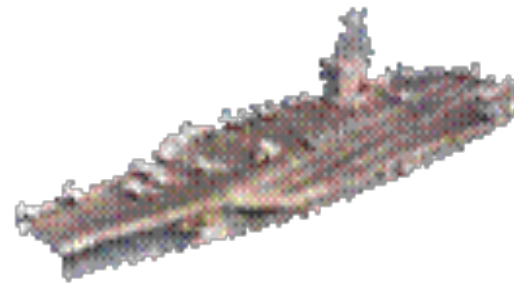
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<https://github.com/named-data/NFD>



NFD: NDN Stack



NAC: Name-Based
Access Control

<https://github.com/named-data/name-based-access-control>

Syncs

<https://github.com/named-data/ChronoSync>

<https://github.com/named-data/PSync>

Repos

<https://github.com/named-data/repo-ng>

Libraries and security tools

<https://github.com/named-data/ndn-cxx>

NDNCERT: automated certificate
provisioning

<https://github.com/named-data/ndncert>

NDN tools: Maintenance and
Debugging

<https://github.com/named-data/ndn-tools>

NDN Testbed

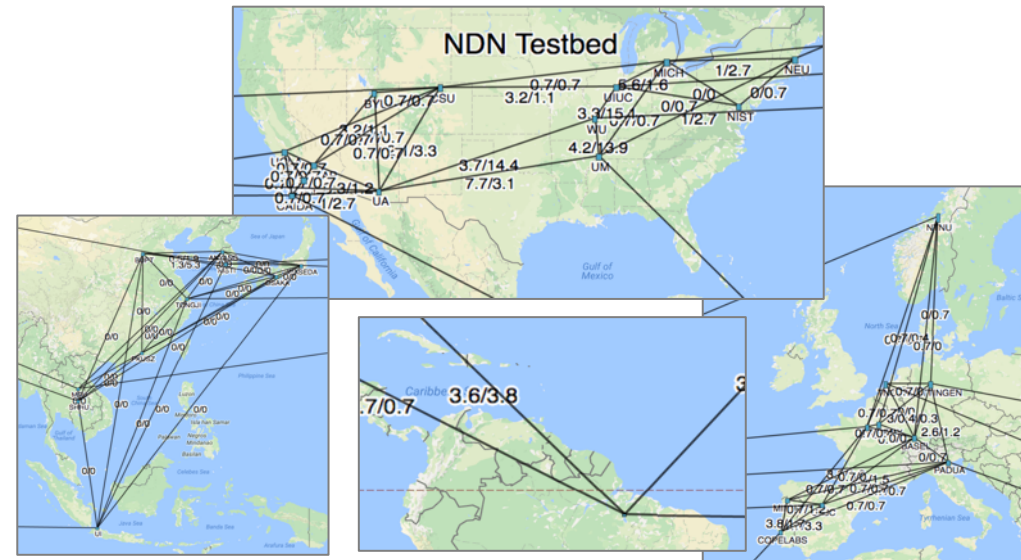
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- Network of 46 sites across 4 continents, 14 countries
- Open to join and use
- <https://named-data.net/ndn-testbed/policies-connecting-nodes-ndn-testbed/>
- Examples applications and experiments
 - videoconferencing, network management, virtual machine migration, strategies, nTorrent
- Small scale realistic evaluations



MiniNDN: NDN Emulation Framework (Based on MiniNet)

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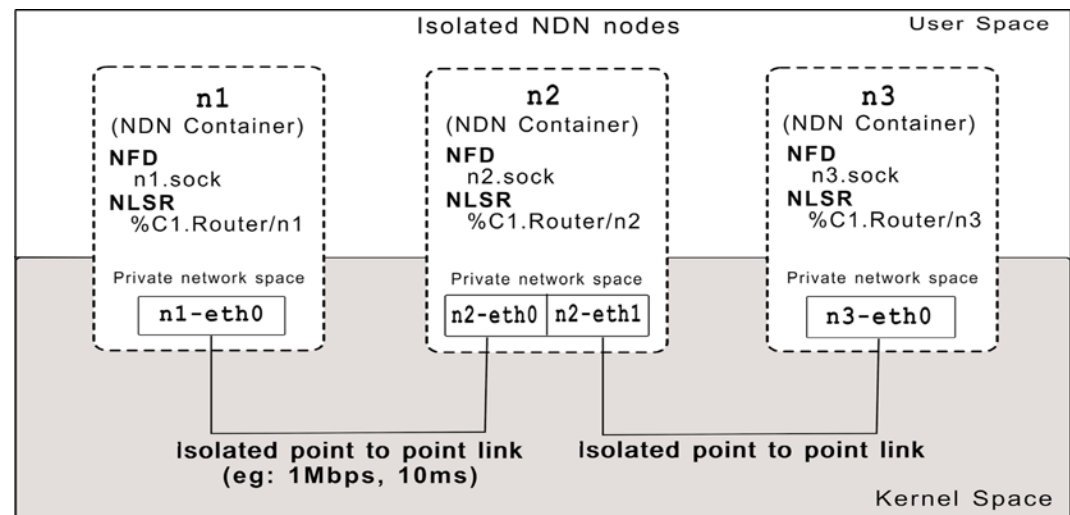
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Defining Multi-Domain Command and Control

- Runs actual instances of NFD, NLSR
- Medium-scale evaluations
- Easy to configure network emulation
- Runs any real application
- Number of emulated nodes \propto CPU power
- Cluster edition can be used to scale emulations

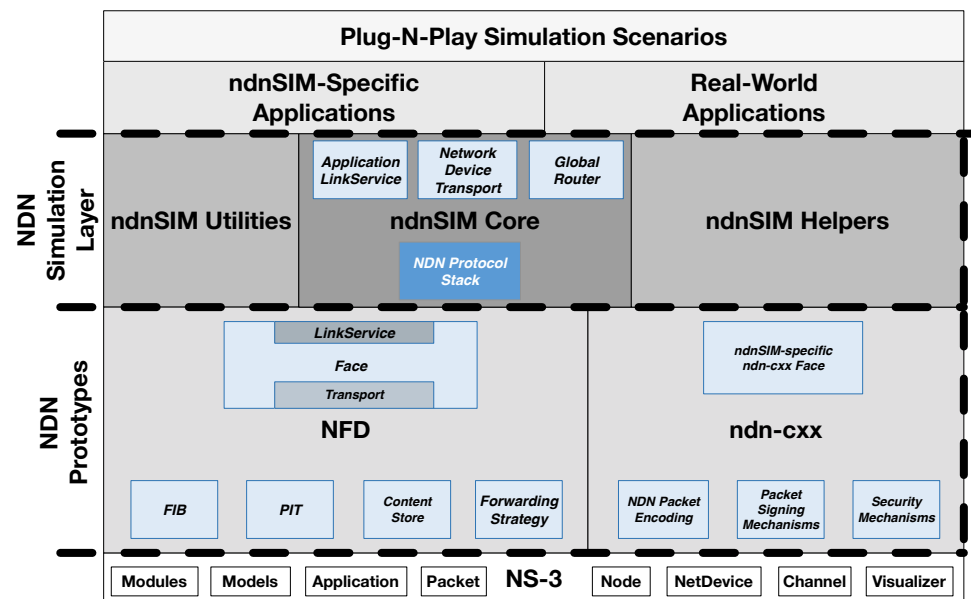
<http://minindn.memphis.edu/>



ndnSIM: NDN Simulation Framework (Based on NS-3)

- Fully integrated with NDN prototype implementations: NFD & ndn-cxx
- Large scale evaluations
- Provide interoperability between simulation and prototyping
- Enable a two-way of experimentation and evaluation
- Enable high-fidelity NDN simulations
- 1500+ nodes with WiFi channels in the evaluation of NDN for vehicular networking

<https://ndnsim.net/>



The top banner features a dark background with intricate blue and orange digital patterns, including dotted lines, circles, and arrows. The word "milcom" is prominently displayed in a white, lowercase, sans-serif font. Below it, the event details are written in a smaller, light blue font.

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Question and Answers