

Common Open Research Emulator (CORE)

The Common Open Research Emulator (CORE) is a tool for emulating networks on one or more machines. You can connect these emulated networks to live networks. CORE consists of a GUI for drawing topologies of lightweight virtual machines, and Python modules for scripting network emulation.



([/itd/ncs/sites/www.nrl.navy.mil/itd/ncs/files/field/image/core-screenshot.png](http://itd/ncs/sites/www.nrl.navy.mil/itd/ncs/files/field/image/core-screenshot.png)).

CORE has been developed by a Network Technology research group that is part of the Boeing Research and Technology division. The Naval Research Laboratory is supporting further development of this open source project.

Key Features

- Network lab in a box
 - Efficient and scalable
 - Easy-to-use GUI canvas
 - Centralized configuration and control
- Runs applications and protocols without modifying them
- Real-time connection to live networks
 - Hardware-in-the-loop
 - Distributed with multiple COREs
- Highly customizable

CORE Demonstrations

Click on a topic below for a short demonstration. These movies require [Flash](https://get.adobe.com/flashplayer/) (<https://get.adobe.com/flashplayer/>).

1. [Introduction to CORE \(core/demo1\)](#).
2. [Wireless \(MANET\) Networks \(core/demo2\)](#).
3. [Links and Services \(core/demo3\)](#).
4. [Distributed Emulation \(core/demo4\)](#).
5. [Play All \(core/demo5\)](#).

CORE Documentation

The [CORE Documentation](https://github.com/coreemu/core/blob/master/docs/index.md) (<https://github.com/coreemu/core/blob/master/docs/index.md>) covers installation, usage, and more. The [CORE Developer's Guide](https://github.com/coreemu/core/blob/master/docs/devguide.md) (<https://github.com/coreemu/core/blob/master/docs/devguide.md>) covers the CORE API, which allows other systems to interact with the CORE emulation. This API is also used for communication between the different components of CORE. [CORE Python Scripting Documentation](https://github.com/coreemu/core/blob/master/docs/scripting.md) (<https://github.com/coreemu/core/blob/master/docs/scripting.md>) is also available.

CORE Downloads

The latest CORE source and releases are available on GitHub at <https://github.com/coreemu/core> (<https://github.com/coreemu/core>).

For more instructions on what to do with the downloaded files, please see the Installation section of the CORE manual.

Contact Info

For more information on CORE, please contact core_emulator_info@nrl.navy.mil (mailto:core_emulator_info@nrl.navy.mil).

Citations

Academic publications that use CORE are requested to cite the following publication:

Comparison of CORE Network Emulation Platforms, Proceedings of IEEE MILCOM Conference, 2010, pp.864-869.