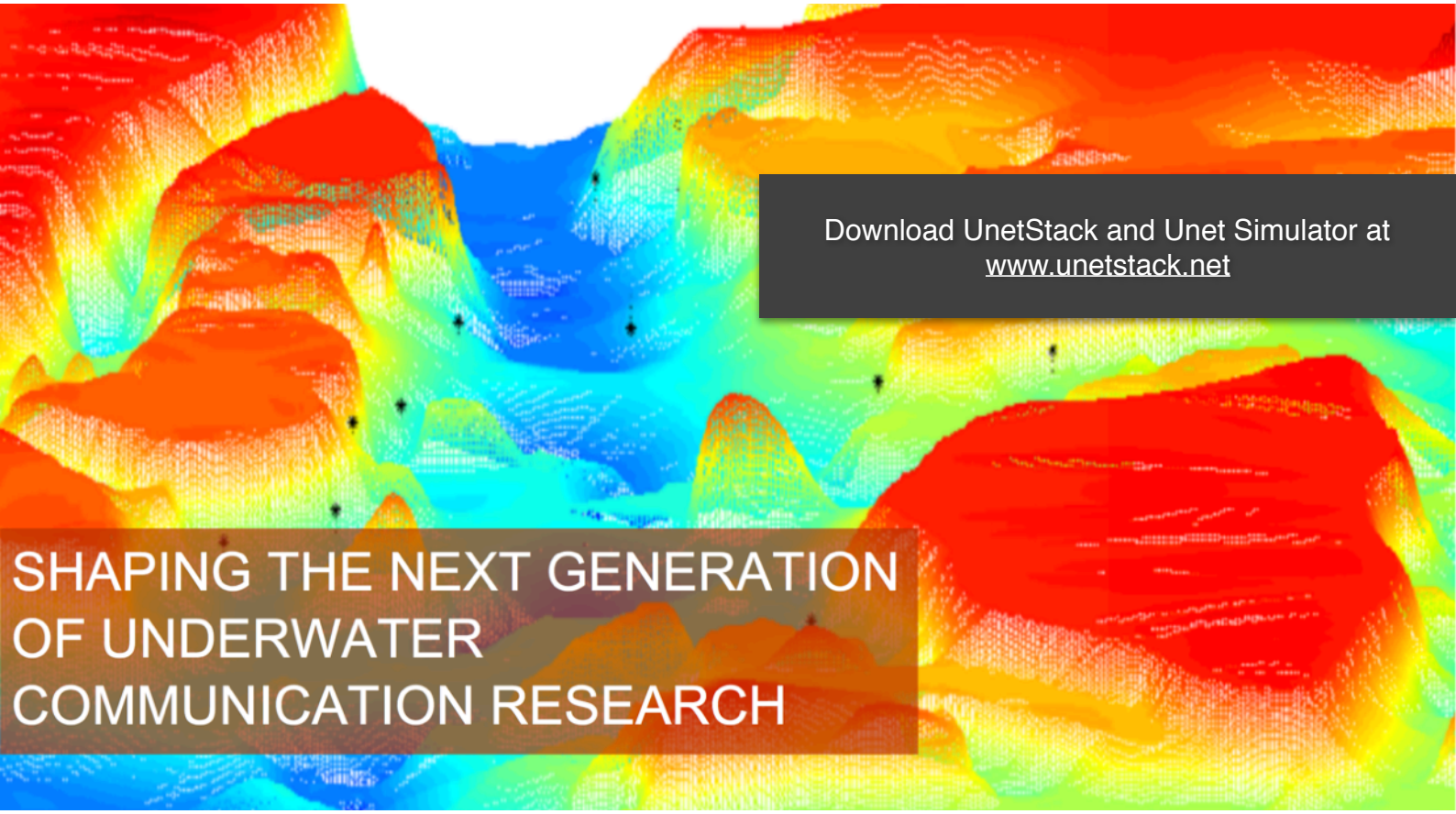
UNET - The Underwater Networks Project



At the heart of the Unet project is UnetStack, an agent-based network stack and simulator designed to run highly optimized protocols for use in underwater communication networks.

EXPLORE & CUSTOMIZE

New to underwater networks? Unet is the perfect place to explore and learn about underwater networks. UnetStack can easily be customized to meet your needs. Control which agents are active, and configure them. Once you are ready to start testing at sea, you can simply copy your solution to a set of supported underwater modems.

SIMULATE & EXTEND

Use the Unet Simulator to test your solutions in a simulated underwater network. Interact with your application in real-time, or switch to a discrete-event mode to collect days or weeks of performance statistics in minutes. Extend UnetStack using Java or Groovy and develop your own network protocols or add agents with sophisticated behaviors.

INTEGRATE & DEPLOY

Need to integrate UnetStack with an underwater sensor, or an autonomous underwater vehicle? With Java, Groovy, Python & C support, it is simple to interface with existing systems over serial ports, network sockets, or web services. Simply copy your agents and scripts to supported underwater modems, and you are ready to test at sea.

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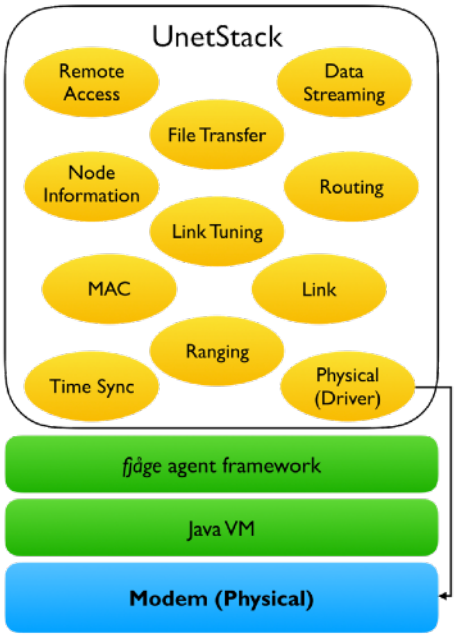
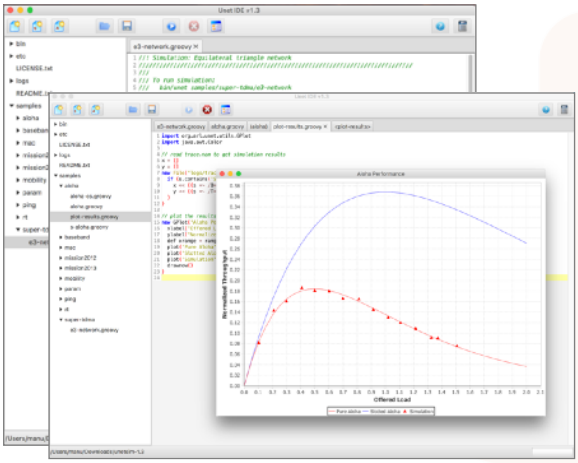
UnetStack - Agent based network stack

UnetStack is an agent-based network stack that lies at the heart of the Unet project. Although the default stack provides everything needed to get a basic underwater network working, the real power of the stack lies in its customizability and extensibility. It not only allows you to easily configure a network to meet your needs, but also to automate network management, develop, simulate and test new network protocols, and implement software-defined signaling at the physical layer.



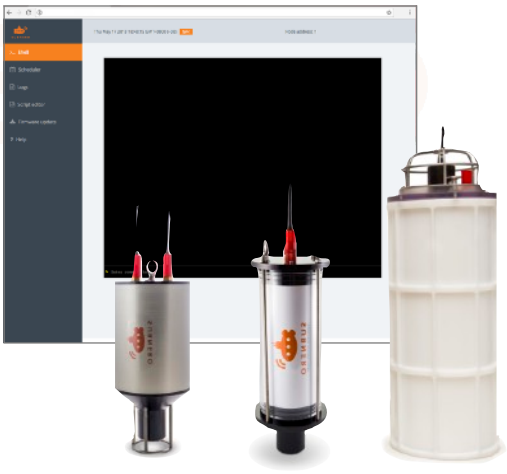


Unet Simulator and IDE

UnetStack forms the backbone of an Underwater Network Simulator that can be used for development and testing of underwater network technology. The simulator was designed with two key goals – to be easy to learn and use, and to allow agent implementations to be shared between deployment environment and simulation environment. Essentially, once a protocol is developed and tested in simulation, it is ready to be deployed and tested at sea in any UnetStack-compatible modem.

Underwater Modems

Due to its flexibility, extensibility and agent based design, it is easy to integrate UnetStack to various underwater modems. Subnero underwater modems (based on ARL Unet-2 modems) ship with support for UnetStack to provide a flexible platform for a variety of underwater networks and applications.



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