# DAOS Performance Tuning

This section will be expanded in a future revision.

## Network Performance

Similar to the Lustre Network stack, the DAOS CART layer has the ability to validate and benchmark network communications in the same context as an application and using the same networks/tuning options as regular DAOS. The CART selftest can run against the DAOS servers in a production environment in a non-destructive manner. CART selftest supports different message sizes, bulk transfers, multiple targets and the following test scenarios:

* **Selftest client to servers** where selftest issues RPCs directly to a list of servers
* **Cross-servers** where selftest sends instructions to the different servers that will issue cross-server RPCs. This model supports a many to many communication model.

Instructions on how to run CART selftest will be provided in the next revision of this document.

## Benchmarking DAOS

DAOS can be benchmarked with both IOR and mdtest through the following backends:

* native MPI-IO plugin combined with the ROMIO DAOS ADIO driver
* native HDF5 plugin combined with the HDF5 DAOS connector (under development)
* native POSIX plugin over dfuse and interception library (under development)
* a custom DFS plugin integrating mdtest & IOR directly with libfs without requiring FUSE or an interception library
* a custom DAOS plugin integrating IOR directly with the native DAOS array API.