

# Applications

Open MPI / MPICH

OpenSHMEM / UPC /  
PGAS

PyTorch / Tensor Flow

Legion / Parsec

MVAPICH

UCC\_internal API

CORE Component

Algorithm  
Primitives

Topology

CONTEXT  
Storage

**UCC Services**

UCS

Basic  
CL

OPT  
CL

UCG  
CL

Vendor  
CL

Schedule  
Builder

Hierarchy-aware  
Task

Deadline-based  
task

UCC\_TL\_internal API

UCP  
TL

NCCL  
TL

SHARP  
TL

SHARED  
Memory  
TL

Schedule  
Execution  
Engine

Hierarchical  
Engine

Reactive  
Engine

Verbs

UCX

NCCL

Shared Memory

SHARP/Hardware Collectives

UCC