ENABLER OF CO-DESIGN

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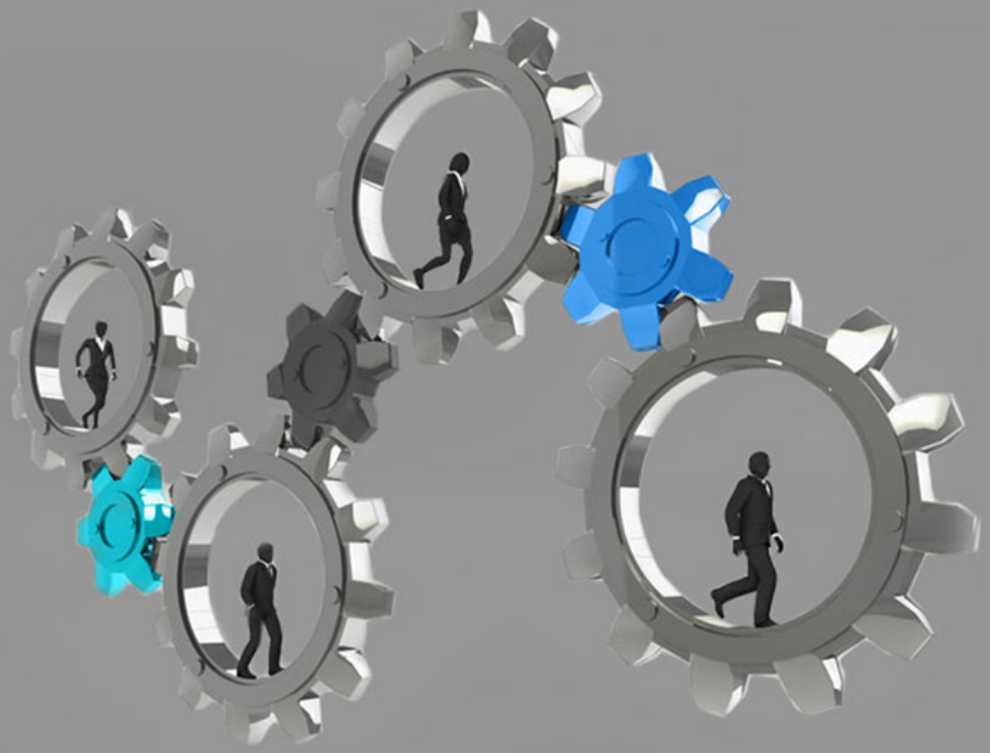

UCC Features

Manjunath Gorentla Venkata, UCF Collectives WG, May 27th, 2020

Version 1.0 Features (First Release)

- Tailor library for various programming models
  - Library Init and Finalize
  - Configure via environment variables, configure file or invocation parameters
- Resource Abstraction
  - Context Create / destroy both as collective and local
- Teams / Endpoints
  - Create team by post, test, and wait
  - Split team operation
- Collective Operations
  - Collective operations for MPI
  - Non-blocking Operations
- Topology-aware Teams
- Open MPI Driver
- Basic Collectives
- Performant Collectives
  - Hierarchical Collectives
  - Reactive Collectives
- Support for Hardware Collectives
  - SHARP
- OpenSHMEM Collectives
  - OpenSHMEM Driver
  - PGAS Collectives
- Benchmarking Infrastructure
  - Correctness
  - Perf tests
- Testing Infrastructure
- Documentation

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Version 2.0 Features

- Persistent Collective Operations
- Endpoint based Team creation
- Explicit device abstraction and affinity
- GPU-aware Collectives
- Tagged Collectives
- Symmetric Memory Management
- Collective Groups
- Multi-rail Collectives

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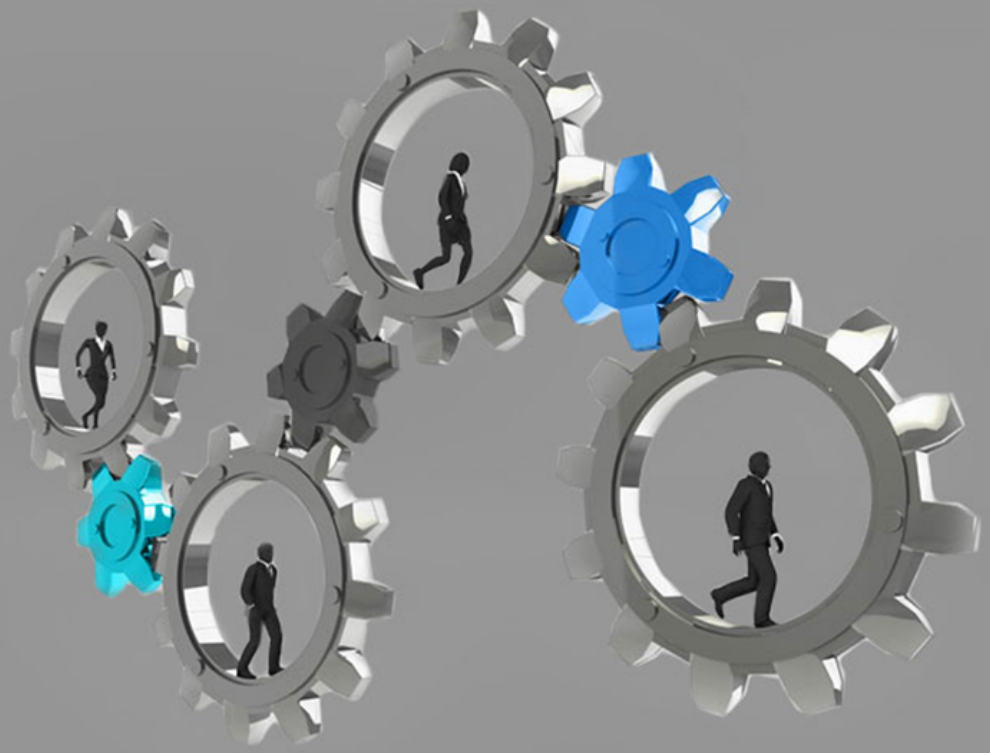

Thank You

The UCF Consortium is a collaboration between industry, laboratories, and academia to create production grade communication frameworks and open standards for data centric and high-performance applications.