**OFI WG telecon – 03/12/2019**

**Agenda:**

1. Opens, Agenda bashing
2. ‘Smart Networks’, collectives, etc
3. Release 1.7
4. OFIWG F-2-F in Austin

**Opens**

OFIWG Face-to-Face brainstorming session being planned for the OFA Workshop, Thursday, 3/21/19.

**Release 1.7.1**

Went through list of patches between master and 1.7, polled the various maintainers as to what needs to be pulled into rc1. Goal is this week. Rel 1.7.1 by end of March.

**OFIWG F-2-F in Austin**

**Discussion – Brainstorming on Collectives**

Workshop Presentation: “Smart Networks, e.g. collective offloads”

Focus is on fabric-based offloads – how to accelerate collectives?

Touched on Smart NICS, but mainly focused on offloads in the switch.

Targeting possibly 1.8, 1.9 release.

Identified a relatively small set of collectives of interest to HPC, AI.

Tried to fit these into the framework of existing OFI operations: e.g. reliable multicast, counters

Broadcast: To implement a broadcast, one possible fit would be to use an FI\_ATOMIC\_WRITE because it has a datatype field. Conceptually, each rank sends an array of datatype to each peer.

All Reduce: good fit seems to be a multicast atomic.

All-to-All: each rank sends a subarray of datatype to each peer. Invented a new term “scatter-cast”.

Reduce-Scatter: essentially a gather/reduce followed by a scatter.

All Gather: each rank sends an array of datatype to each peer, each rank receives an array of datatype from each peer. OFI fit: multicast

A Grab Bag of Requirements:

1. Discovery mechanism of available accelerations
2. Collectives may be repeated millions of times (e.g. AI training)
3. Collectives may repeat with the same message size
4. Support for both pre-defined and user-defined operations
5. Need the number of communicating peers

**Next meeting**

Tuesday, March 26, 2019

9:00 – 10:00AM PST

**Recording:**

**Webex link:** See the OFA central calendar for meeting logistics. <https://openfabrics.org/index.php/ofa-calendar.html>

**OFIWG Download Site:** [www.openfabrics.org/downloads/OFIWG](http://www.openfabrics.org/downloads/OFIWG)

**Github:** <https://github.com/ofiwg/libfabric>

**OFI Software Download Site:** [www.openfabrics.org/downloads/OFI](http://www.openfabrics.org/downloads/OFIWG)