Open Fabrics Interfaces
Software
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OFI software will be backward compatible
OFI WG Charter

Develop an extensible, open source framework and interfaces aligned with ULP and application needs for high-performance fabric services

www.openfabrics.org
What does this mean for users?

• OFI WG is developing new software interfaces
  – Targeting application requirements
  – Focus on scalability

• Framework and API details are still under discussion
  – (Very tentatively) trending towards libfabric

• libfabric is a straw man proposal
  – It is fully intended that the open source community mold it
libfabric **proposal**

- Merges existing libraries into one
- libibverbs
- librdmacm
- App-centric APIs
- *Drop in replacement*
- **Optimized extensions**
libfabric proposal

Current App

New Verbs App

Fabric App

ibverbs

rdmacm

fabric extensions

www.openfabrics.org
libfabric proposal

• Open source
• Incomplete
  – Intended as a starting point for development
• Extends verbs and CM operations
• Introduces generalized ‘fabric’ objects
  – Map best to RDMA CM objects

Proposal would reduce number of libraries to install and inter-dependency issues
libfabric proposal

- Design is to be redistributable
  - Define guidelines for vendor distribution
  - Distros and OFED would still pull upstream version
- Supports a direct provider option
  - Application compiles directly against provider library
  - Providers override exposed interfaces
  - May improve performance with highly optimizing compiler
  - Limits application to single provider
    - May require recompilation if provider is updated
libfabric proposal

- Gives administrator control over default and maximum application settings
  - E.g. queue sizes, memory allocations, etc.
  - Similar to /proc/sys/net configuration values
fabtests proposal

- Set of tests for validating libfabric operation and compliance
- Test programs separate from library
- Looking to use with an automated test suite
- Make it easier for administrators to help validate software
User Feedback to OFI WG

- What are your requirements?
- What problems do you experience with the existing software stack that you would like to see solved?
Thank you!