Open Fabrics Interfaces Software

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OFI software will be backward compatible

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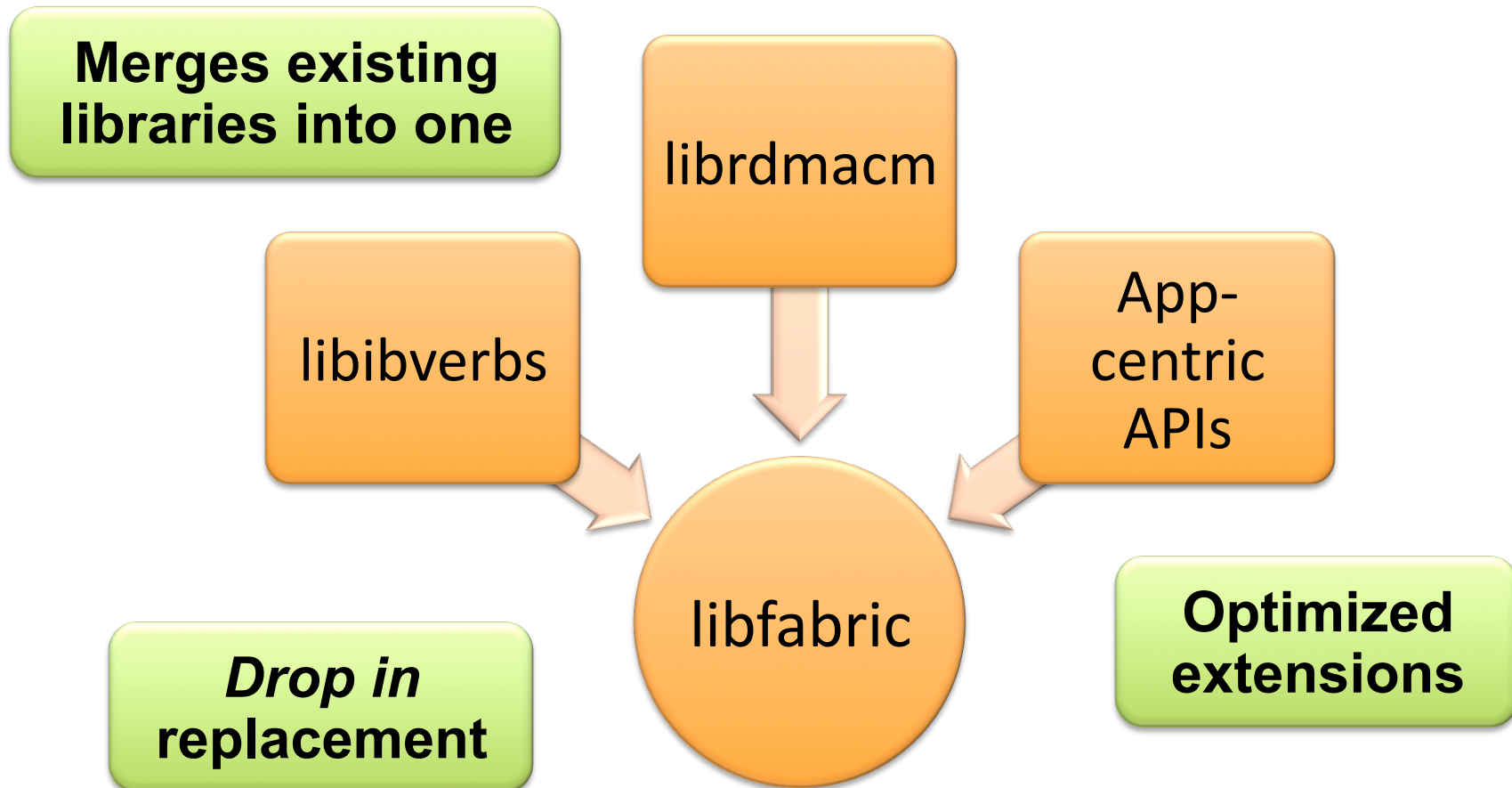
Develop an extensible, open source framework and interfaces aligned with ULP and application needs for high-performance fabric services

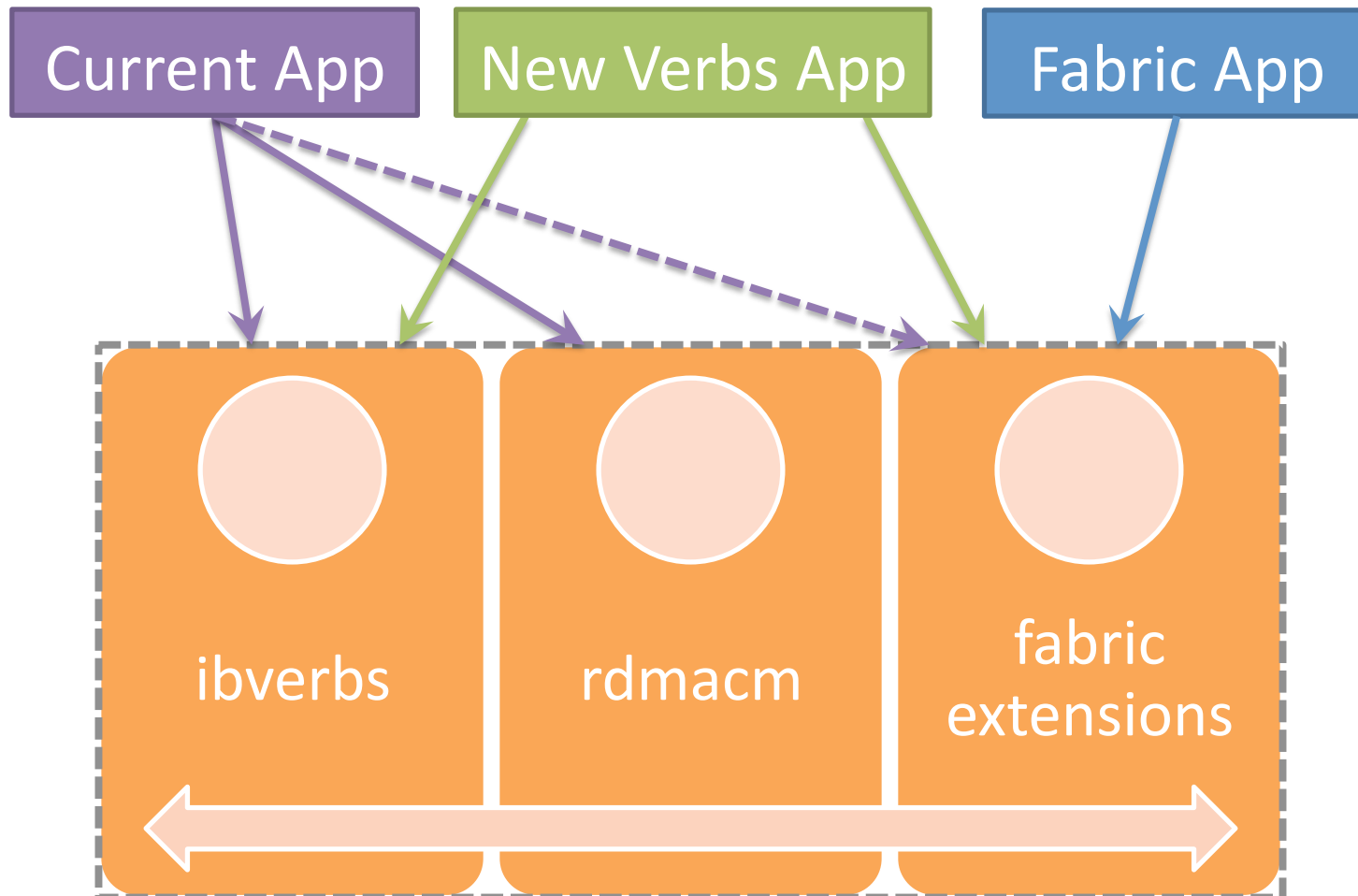# What does this mean for users?

- 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

librdmacm

libibverbs

App-centric APIs

libfabric

Drop in replacement

Optimized extensions

libfabric *proposal*

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!