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Title: Open MPI and Open Fabrics Software

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presentation

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OpenFabrics  
Software  
User Group  
Workshop

# Open MPI and Open Fabrics Software

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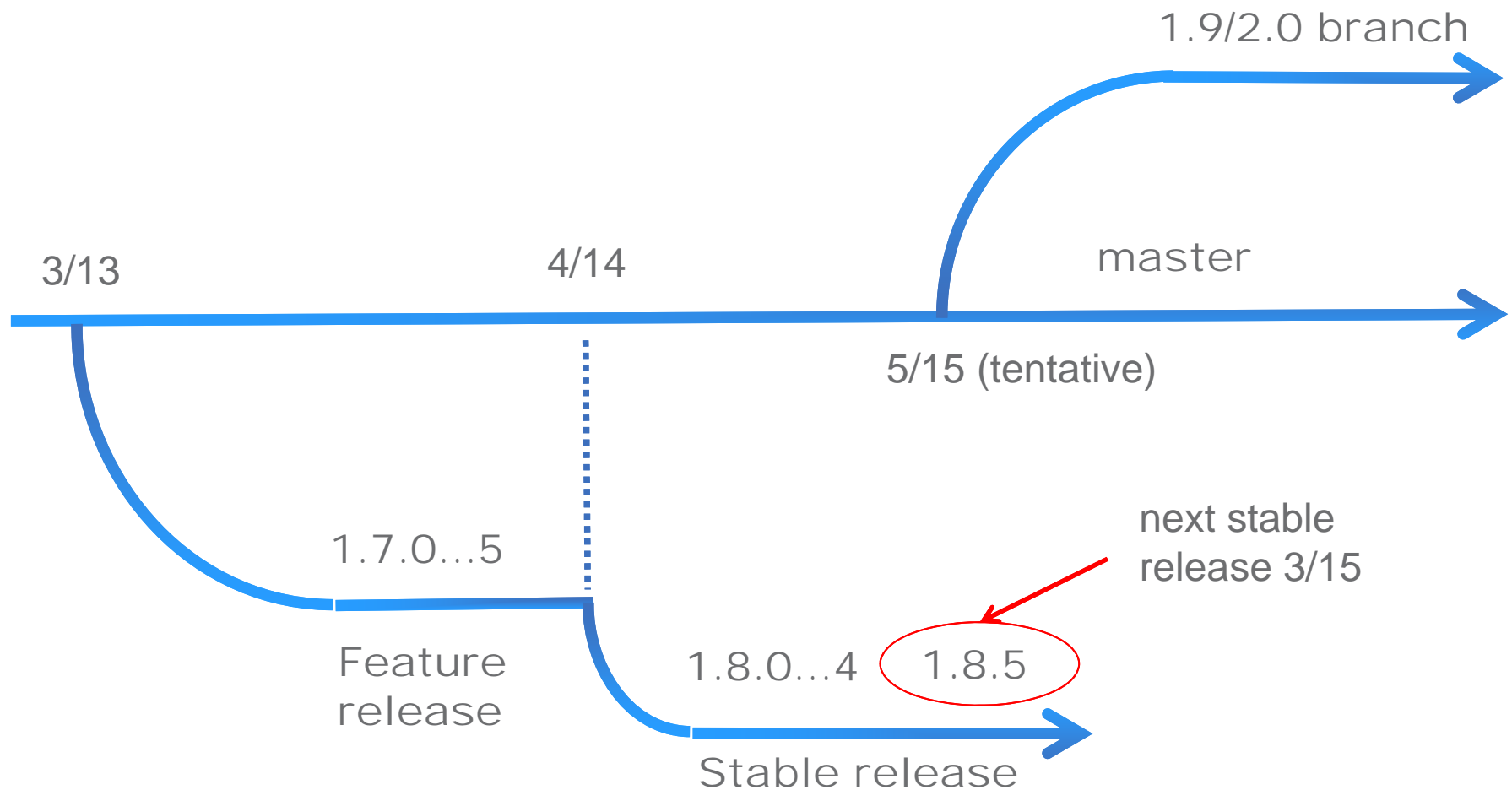
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# Outline



- Release timeline
- Github
- Upcoming Features
- Status of Open MPI and Open Fabrics software
- What's trending

# Release Timeline



# https://github.com/open-mpi/ompi



GitHub repository page for **open-mpi / ompi**. The page shows the repository name, a search bar, and navigation links (Explore, Gist, Blog, Help). The repository is owned by **hppritcha** and has 41 Unwatch, 52 Star, and 49 Fork actions.

The repository is described as the "Open MPI main development repository". It has 22,339 commits, 1 branch, 1 release, and 59 contributors.

The current branch is **master**. A merge pull request #457 from **hjelmn/mpit\_fixes** is shown, authored 9 hours ago. The latest commit is **ccba8ce856**.

The repository structure includes the following files and folders:

File/Folder	Description	Last Commit
<b>config</b>	opal_check_pmi: protect un-prefixed shell variables	6 days ago
<b>contrib</b>	libtldl: remove libtldl from the tree	9 days ago
<b>examples</b>	Add missing files to tarball	a month ago
<b>ompi</b>	Merge pull request #457 from hjelmn/mpit_fixes	9 hours ago
<b>opal</b>	Merge pull request #457 from hjelmn/mpit_fixes	9 hours ago
<b>orte</b>	grpcomm: fixed brks and rcd algorithms - added enough space for masks...	11 hours ago
<b>oshmem</b>	(ortelompiloshmem)*info tools: convert to opal_dl interface	9 days ago
<b>test</b>	datatypes: trivial spelling fix	19 days ago
<b>.gitignore</b>	Update orte-submit manpage, add the ompi-* versions of orte-dvm and o...	2 months ago
<b>.mailmap</b>	Update the emails from UTK folks.	a year ago
<b>AUTHORS</b>	AUTHORS: Updated with Git email addresses (vs. SVN IDs)	6 months ago

On the right side, there are links to **Code**, **Issues** (213), **Pull requests** (18), **Wiki**, **Pulse**, and **Graphs**.

The **HTTPS clone URL** is <https://github.com/open-mpi/ompi>. You can also clone with **SSH** or **Subversion**.

Buttons for **Clone in Desktop** and **Download ZIP** are available.

# Github move



- Special thanks to David Goodell and Jeff Squyres for extra effort to make this happen
- Open git issue if you wish to report a bug
- Better yet, do a fork, fix the problem, then issue a pull request - @jsquyres or @hppritcha
  - Note a major feature may require signing project's collaborator agreement
- Check the [git wiki page](#) for info on working with Open MPI on github, etc.

# Upcoming Features – 1.9/2.0 release stream



- MPI 3.0 errata and MPI 3.1 compliant (assuming 3.1 is passed at June '15 forum meeting)
  - Possible exception of ticket [#273](#)
- MPI\_THREAD\_MULTIPLE support for important BTLs
- Job startup improvements and reduced memory footprint
- connection management info
- Libfabric adoption (usNIC, OFI MTL)
- Mellanox specific improvements
- Streamlined build process for Cray systems
- Improved asynchronous progress for some BTLs
- ScoreP support
- One or more MPI-4 features (as MPIX\_\*)



# Deprecated Features in 1.9/2.0



- Cray XT systems
  - May terminate support for Cray XE CLE 4.X
- MX BTL
- SCIF BTL (?)
- Coll ML component (?)

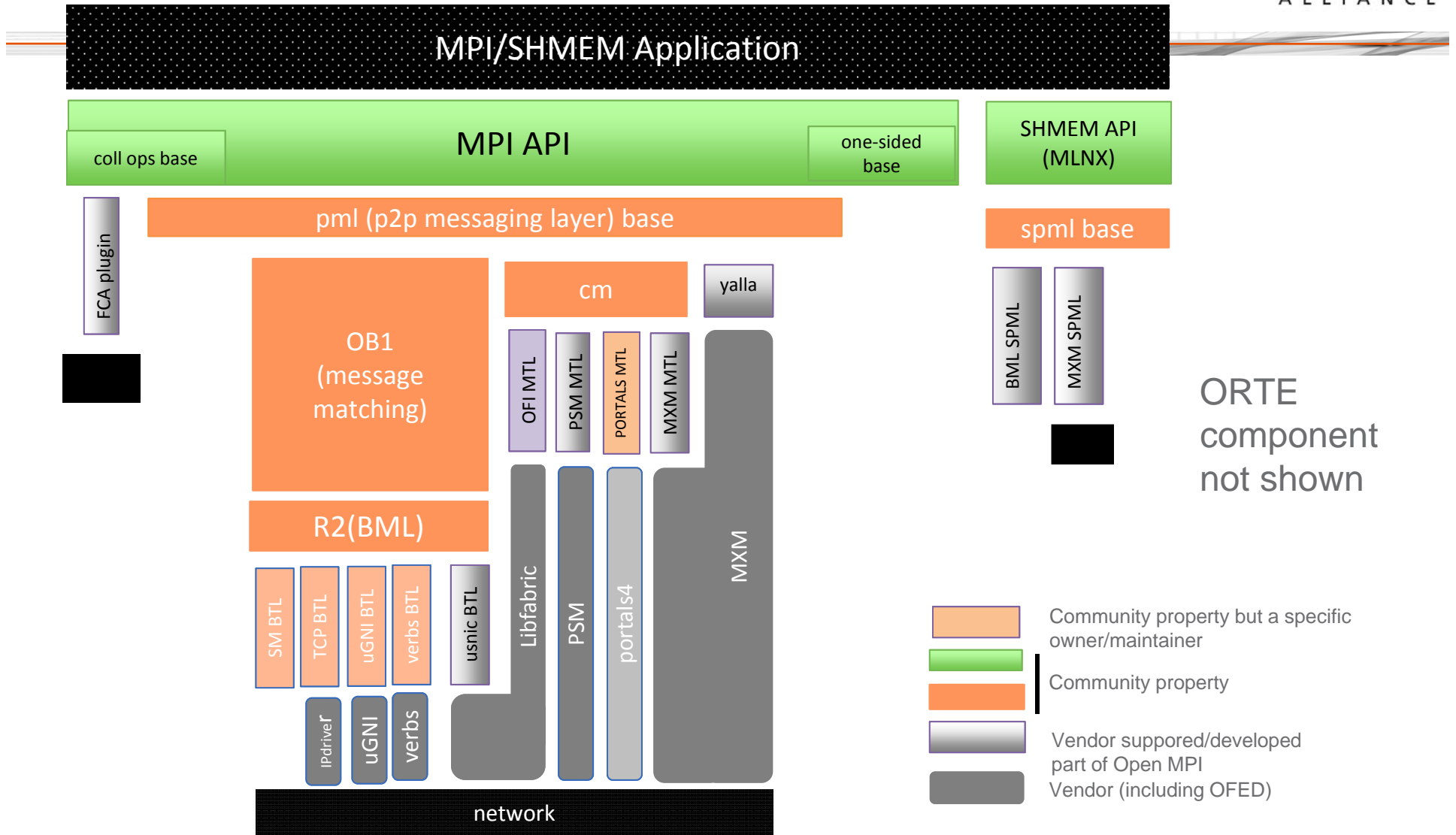
# Open Fabrics and Open MPI

# OFED Software use in Open MPI (master)



- Open IB BTL
- MXM, PSM, and libfabric MTLs
- Mellanox FCA collective accelerator package
- Out of band control network (used by mpirun)
  - Uses UD

# Open MPI Project Code Structure



# What's in/what's not

- For Mellanox HCA's use MXM/FCA
  - Well supported by the vendor
  - Actively being developed/enhanced
  - export MXM\_TLS=rc,shm,self for best performance, for scalability ud,shm,self, latest HCA/firmware, dc,shm,self
- For Intel Infinipath HCA's use PSM
  - OFI libfabric MTL is available for a check-out
- The openib BTL in Open MPI will be maintained, but no development is planned
- May implement a slimmed down openib BTL specifically for iWarp
- The openib BTL may be deprecated in next release stream (2.1/2.2)

# Questions?



Thank You



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