

MPI 2.1 at MPI Forum Chicago, June 30 – July 2, 2008

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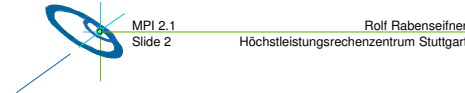


MPI-2.1 – Working plan: June 30 – July 2, 2008

Monday: 1:00 pm - 1:10 pm : MPI 2.1 - Current status
5:00 pm - 5:20 pm : MPI 2.1 - Working plan and preparation for votes

Tuesday: 9:00 am - 9:30 am : MPI 2.1 - Ballot 4: 2nd vote
MPI-1.3 (May 30, 2008) 1st vote
MPI-2.1 (June 23, 2008) 1st vote

Wednesday: 9:00 am - 9:30 am : MPI 2.1 - Implementation schedule and wrap up



MPI-2.1 – Current Status

Monday 1:00 pm

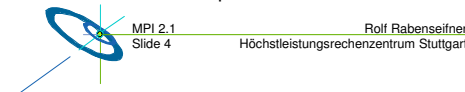
- All ballot and review discussions are done (except 2nd vote of Ballot 4)
- MPI-1.3 (May 30, 2008) and
- MPI-2.1 (June 23, 2008)
 - Finished
 - Official reading was April 28-30, 2008
 - Printed books are available at this meeting
 - 2 x MPI-1.3 (dark yellow / gold)
 - 2 x MPI-2.1 (draft June 13, 2008) – Part I (light yellow) + Part II (orange)
 - 2 x MPI-2.1 (June 23, 2008) – Part I (light yellow) + Part II (orange)
 - One pair **black/white** version,
 - the other pair **colored** version (marking the merging and review process)
 - 1st official vote at this meeting, 2nd vote in Dublin, Sep. 3-5, 2008
- Problems
 - A few additional minor bugs detected and fixed in MPI-2.1 (draft June 13, 2008) and MPI-2.1 (June 23, 2008), i.e., they were missing in the official reading
 - Will be discussed in 5pm-slot today



MPI-2.1 – Working Plan

Monday 5:00 pm

- Finishing the official reading
- Voting
 - By institution
 - Each institution has 3 votes:
 - Ballot 4 (2nd vote) // MPI-1.3 (1st vote) // MPI-2.1 (1st vote)
 - **You can vote 3 times the same, or making 3 individual decisions**
- Open issues → MPI-2.2
 - File http://www.hlrs.de/mpi/mpi21/doc/MPI-2.1-reviews_open-issues.txt / .pdf / .ps
 - Categories
 - **A: Significant enhancement or modification that should be discussed in the MPI-2.2 process**
 - **B: Maybe nice to have or maybe already solved. Handed over to the originators of the items.**
 - Each reviewer gets his own list of items
 - Electronically back to Bill Gropp & Rajeev Thakur
- Offline discussions
 - How to handle MPI-2.2 and MPI-3.0 documents
 - Impression from MPI-2.1: Only Forum members should be authors of Latex text



Finishing the MPI-2.1 Official Reading

- 3 Typo corrections
- In the tables in Annex A.1.1, the C++ type declarations of the constants was removed during the merging process.
 - My apologies for not detecting this bug earlier.
 - I recovered these declarations according to
 - MPI-2.0, Annex B, MPI-1 C++ Language Binding**
 - Ballot 2, Item 15-17:**
`const MPI::Datatype` → `MPI::Datatype`
 - Ballot 3, Item 12:**
`const void * MPI::BOTTOM` → `void * const MPI::BOTTOM`

Finishing the MPI-2.1 Official Reading - continued

- I removed the predefined "null"-callbacks
`MPI_{COMM | TYPE | WIN}_{NULL_COPY | DUP | NULL_DELETE}_FN`
from Appendix A.4.4 (C++ binding for Chap. ...Caching),
because:
 - Sect. 6.7.3, 6.7.4, and 6.7.5 tell "same name in C, Fortran, and C++".
 - In Annex A.1.1:
 - MPI-2.1 (Draft June 13, 2008) page 499**
and **MPI-2.1 (June 23, 2008) page 497, lines 15-17**
 - `MPI::{NULL_COPY | DUP | NULL_DELETE}_FN` are defined for deprecated functions**
 - Senseless routines, because the C++ routines, where they can be used as IN function-argument, do not exist,**
 - C++ naming as usual with MPI::**
- I moved this problem to MPI-2.2**

Official vote:
Do you accept
• the listed MPI-2.1 Ballot 4 items,
• MPI-1.3 (May 30, 2008), and
• MPI-2.1 (June 23, 2008) ?

All official votes together

Each institution is asked for three votes:

- Ballot 4: 2nd vote
 - MPI-1.3 (May 30, 2008): 1st vote
 - MPI-2.1 (June 23, 2008): 1st vote
- You can vote
- 3 times the same,
 - or making 3 individual decisions.

Ballot 4: Yes: 22; No: 0; Abstain: 0

MPI-1.3: Yes: 22; No: 0; Abstain: 0

MPI-2.1: Yes: 22; No: 0; Abstain: 0

Number of institutions: 22
(at this meeting)

Not in the room: 0
(while voting)

Ballot 4

Tuesday 9:00 am

- Incorrect use of MPI_IN_PLACE in description of MPI_ALLGATHER and MPI_ALLGATHERV
- a-g Edits to MPI-2 Chapter 4, Miscellany
- Interlanguage use of Attributes **and** Error in Example 4.13 in MPI-2 (Use of Attributes in C and Fortran)
- What info keys can be set?
- Datatypes and MPI_PROBE
- MPI_PROCNUL and RMA Part 2
(7.+9. → **MPI 2.2**)
- Thread safety and collective communication
- a-d Questions about Cart_create & Cart_coords
- e Questions a. Cart_create & Cart_coords (Typo)
- a-c Questions about Graph_create
- Why no MPI_INPLACE for MPI_EXSCAN?
- MPI_GET_PROCESSOR_NAME, MPI_COMM_GET_NAME and Fortran/C Interpretation of user defined datarep
- MPI_Abort
- MPI_Type_create_f90_real etc.
- MPI_File_get_info
- MPI_File_set_view
- MPI_IN_PLACE for MPI_Reduce_scatter
- Blocklengths of zero in MPI_TYPE_STRUCT and in MPI Datatypes
- Which thread is the funneled thread?
- A Change "INOUT" to "IN" for MPI Handle Parameters in several routines, Proposal A

Implementation of MPI-2.1

Wednesday 9:00 am

- Do you **expect** that your company/organization is able to implement the 33 issues of MPI-2.1 (see Annex B, Change-Log) until EuroPVM/MPI 2008 (Sep. 7-10, 2008)?
- If no, please can you give an **estimate**.

Library	Yes mm/yy	asked
MPICH2	YES	Rajeev Thakur
Open MPI	YES	Jeff Squyres
IBM	12/2008	Dick Treumann
Sun Microsystems	YES	Rolf Vandevaraart
Microsoft	12/2008	Erez Haba
Fujitsu	end 2009	Sueyasu, Naoki

Library	Yes mm/yy	asked
Bull		Yann Kalemkarian
HP		Kannan Kaushik
Cray	Q1 2009	Mark Pagel
NEC	YES	Hubert Ritzdorf, Jesper Traeff
Intel		Alexander Suplaov, Keith Underwood
SiCortex	YES	David Gingold

MPI-2.1 – ½-Year Project – a Statistical Summary

1st telephone conference, December 21, 2007 – Final MPI-2.1, June 23, 2008

Work
months

• MPI 1.3 + 2.0, merging	335 distinguished parts	1
• Ballot 1+2	40 items implemented	
• Ballot 3	14 items / 12 accepted + implemented	
• Ballot 4	22 items / 20 accepted + implemented	1
	+ a lot of e-mails by MPI Forum members	1
• Review items analyzed and ... (814 items)	24 also implemented in MPI-1.3 26 still open questions → MPI-2.2 19 handed over to chapter authors 77 done by MPI-2.1 chapter authors 101 deferred to MPI-2.2 14 question & answer only 68 rejected (reasons communicated to the authors)	
	<u>485 items implemented by myself (253 since last meeting)</u>	1
• Total summary	1225 items	
• 14 chapter authors (x 2 weeks/author)	21 chapters / annexes / frontm. / bibl. / index read and corrected	7
• 20 meeting hours (x 40 members)	Dec.07 telco: 0.5h + Jan.08: 5 h + Mar.08: 7 h + Apr.08: 6.5 h + June 08: 1 h	<u>5</u> 16

months

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Published Files

Dis-
cussion:

Do we
need
more /
other
?

All okay
as it is?

Yes:
24

No:
1

Abstain:
0

- **Normal Version with colored links (for online usage or colored printing):**
[mpi-report-2.1-2008-06-23.pdf *](#)
- **Normal Version with colored links (for colored printing only):**
[mpi-report-2.1-2008-06-23.ps](#)
[mpi-report-2.1-2008-06-23-small.pdf](#)
[mpi-report-2.1-2008-06-23-twice.pdf](#)
[mpi-report-2.1-2008-06-23-split-book-A5.pdf](#)
- **Normal Version with black links (for black/white printing only):**
[mpi-report-2.1-2008-06-23-black.pdf *](#)
[mpi-report-2.1-2008-06-23-black.ps](#)
[mpi-report-2.1-2008-06-23-black-split-book-A5.pdf](#)
[mpi-report-2.1-2008-06-23-black-twice-part1.pdf **](#)
[mpi-report-2.1-2008-06-23-black-twice-part2.pdf **](#)
- **Version with colors showing the development of MPI-2.1 (only for reviewing/history purpose):**
[mpi-report-2.1-2008-06-23-reviewcolors.pdf *](#)
[mpi-report-2.1-2008-06-23-reviewcolors.ps](#)
[mpi-report-2.1-2008-06-23-reviewcolors-split-book-A5.pdf **](#)
- **BLUE:** Separately compiled (i.e., six files = six independent Latex runs)
- **ORANGE:** Additional files for convenient printing (based on .ps → published shell script)
- ***** with correct cross references for Acrobat reader (table of content, citations, index)
- ****** used for printed books at the Forum meeting

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Follow-Up: Next Steps

- Ballot 3 → was done at last meeting
- Ballot 4 → is done at this meeting
- MPI-1.3 → Sep'08 2nd vote = done
- MPI-2.1 → Sep'08 2nd vote = done
- Libraries:
First Implementations until EuroPVM/MPI 2008 is feasible

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