

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

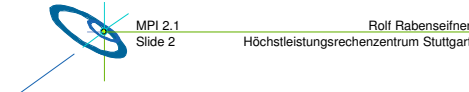
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## MPI-2.1 – Working plan: June 30 – July 2, 2008

- 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: 2<sup>nd</sup> vote  
MPI-1.3 (May 30, 2008) 1<sup>st</sup> vote  
MPI-2.1 (June 23, 2008) 1<sup>st</sup> vote
- Wednesday: 9:00 am - 9:30 am : MPI 2.1 - Implementation schedule and wrap up



Monday 1:00 pm

## MPI-2.1 – Current Status

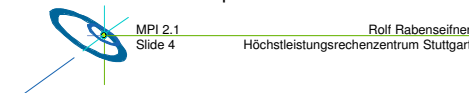
- All ballot and review discussions are done (except 2<sup>nd</sup> vote of Ballot 4)
- MPI-1.3 (May 30, 2008) and
- MPI-2.1 (June 23, 2008)
  - Finished
  - Official reading was April 28-30, 2008
  - Printed books are available at this meeting
    - 2 x MPI-1.3 (dark yellow / gold)
    - 2 x MPI-2.1 (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)
  - 1<sup>st</sup> official vote at this meeting, 2<sup>nd</sup> 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



Monday 5:00 pm

## MPI-2.1 – Working Plan

- Finishing the official reading
- Voting
  - By institution
  - Each institution has 3 votes:
    - Ballot 4 (2<sup>nd</sup> vote) // MPI-1.3 (1<sup>st</sup> vote) // MPI-2.1 (1<sup>st</sup> vote)
      - **You can vote 3 times the same, or making 3 individual decisions**
- Open issues → MPI-2.2
  - File [http://www.hirs.de/mpi/mi21/doc/MPI-2.1-reviews\\_open-issues.txt](http://www.hirs.de/mpi/mi21/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: 2<sup>nd</sup> vote
- MPI-1.3 (May 30, 2008): 1<sup>st</sup> vote
- MPI-2.1 (June 23, 2008): 1<sup>st</sup> 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**  
(white voting)

### Ballot 4

Tuesday 9:00 am

1. Incorrect use of MPI\_IN\_PLACE in description of MPI\_ALLGATHER and MPI\_ALLGATHERV
- 2.a-g Edits to MPI-2 Chapter 4, Miscellany
3. Interlanguage use of Attributes **and** Error in Example 4.13 in MPI-2 (Use of Attributes in C and Fortran)
4. What info keys can be set?
5. Datatypes and MPI\_PROBE
6. MPI\_PROCNULL and RMA Part 2 (7.+9. → **MPI 2.2**)
8. Thread safety and collective communication
- 10.a-d Questions about Cart\_create & Cart\_coords
- 10.e Questions a. Cart\_create & Cart\_coords (Typo)
- 11.a-c Questions about Graph\_create
12. Why no MPI\_INPLACE for MPI\_EXSCAN?
13. MPI\_GET\_PROCESSOR\_NAME, MPI\_COMM\_GET\_NAME and Fortran/C Interpretation of user defined datarep
14. MPI\_Abort
- 15.a-b MPI\_Type\_create\_f90\_real etc.
16. MPI\_File\_get\_info
17. MPI\_File\_set\_view
18. MPI\_IN\_PLACE for MPI\_Reduce\_scatter
19. Blocklengths of zero in MPI\_TYPE\_STRUCT and in MPI Datatypes
20. Which thread is the funneled thread?
21. Change "INOUT" to "IN" for MPI Handle Parameters in several routines, Proposal A
- 22.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 Vandevaart
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 + 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)	1
<hr/>		
• 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: <b>0.5h</b> + Jan.08: 5 h + Mar.08: <b>7 h</b> + Apr.08: <b>6.5 h</b> + June 08: <b>1 h</b>	<u>5</u> 16

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H L R I S months

## 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 2<sup>nd</sup> vote = done
- MPI-2.1 → Sep'08 2<sup>nd</sup> vote = done
- Libraries:  
First Implementations until EuroPVM/MPI 2008 is feasible

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