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

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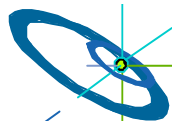
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MPI-2.1 – Working plan: June 30 – July 2, 2008

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

- 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

- 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

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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**

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

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
14.   Interpretation of user defined datarep
15.a-b   MPI_Abort
16.   MPI_Type_create_f90_real etc.
17.   MPI_File_get_info
18.   MPI_File_set_view
19.   MPI_IN_PLACE for MPI_Reduce_scatter
20.   Blocklengths of zero in MPI_TYPE_STRUCT and in MPI Datatypes
21.   Which thread is the funneled thread?
22.A   Change "INOUT" to "IN" for MPI Handle Parameters in several routines, Proposal A

Implementation of MPI-2.1

- 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	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)	
		485 items implemented by myself (253 since last meeting)	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**	5
			16 months

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Published Files

- **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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