MPI FORUM

Thoughts on How to Proceed

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Observations

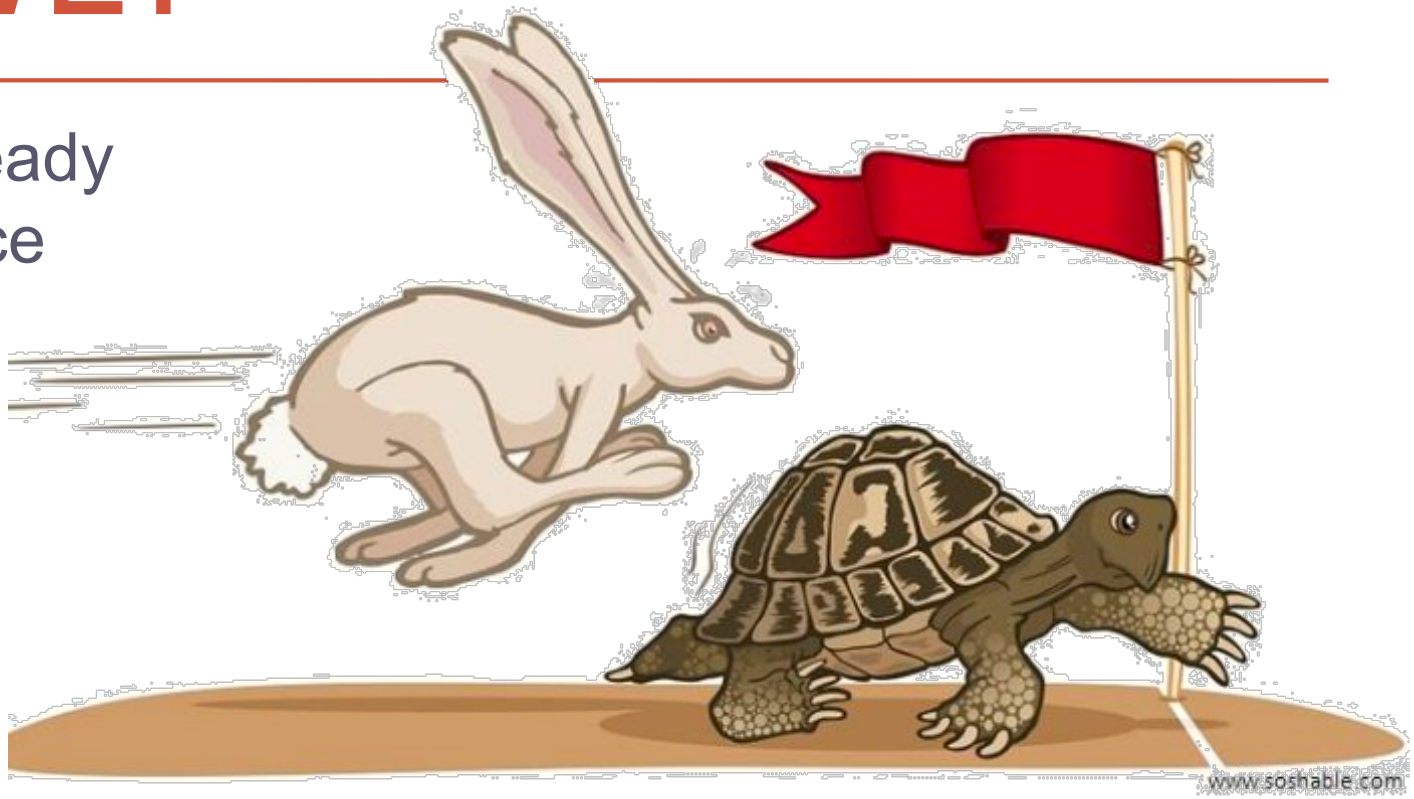
- **Number of plenary items is fairly low**
  - Minor issues or errata only
  - Larger topics are repeated
  - Few new ideas being introduced
- **Major topics from MPI 3.0 still seem to be stuck**
  - Fault tolerance, Endpoints, …
  - Little movements, same discussions over and over again
- **New major topics are not making enough progress**
  - Sessions, PMPI2, …
  - People don’t have enough time
  - People have varying ideas – trying too much at one time?
  - Too much repition over and over again
- **Critical mass for new standard version missing**
  - No gating issues, no time pressure
  - Consequently, time between standards is growing
- **Non US meetings often don’t meet quorum (3 of 4)**
  - No ability to make “official” progress

Potential Dangers

- **MPI is seen as stagnant**
  - No new versions for a long time
  - Not addressing new developments in other areas
- **Helps perpetuate the image that MPI doesn't change**
  - Can never be ready for new challenges
  - Can't change to meet new needs
- **Reduced motivation**
  - We are doing this "on the side"
  - Slow process can be frustrating
- **Long time between discussions reduces efficiency**
  - If you only deal with a topic every three months, progress is hard
  - Changing people in the room makes it even harder
  - We have too many failed readings

THE FORUM HAS ALWAYS MOVED SLOWLY

Slow and Steady
Wins the Race

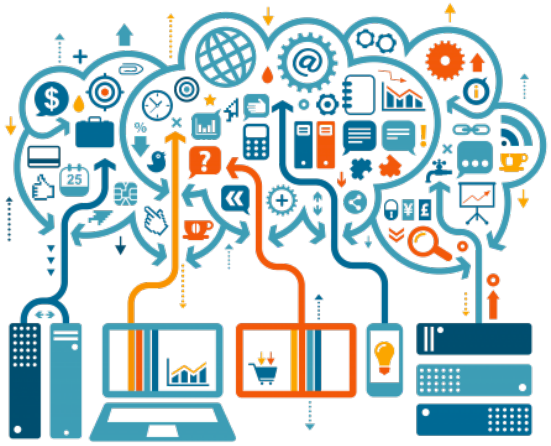


…except when it doesn't

Two Questions

- **How can we pick up the pace?**

- **Should we better serve new communities and how?**



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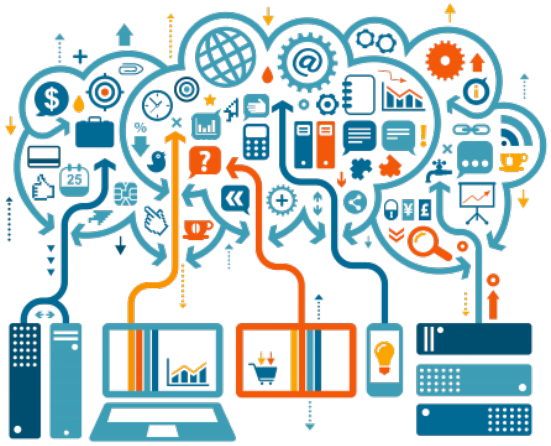


HOW DO WE MOVE FASTER?

Perception by many:
The MPI Forum is moving too slow

Obviously, we don’t want to move *too* fast

We want something between the two

Sweet spot

FIRST ANGLE

Meetings

We currently have 4 meetings a year

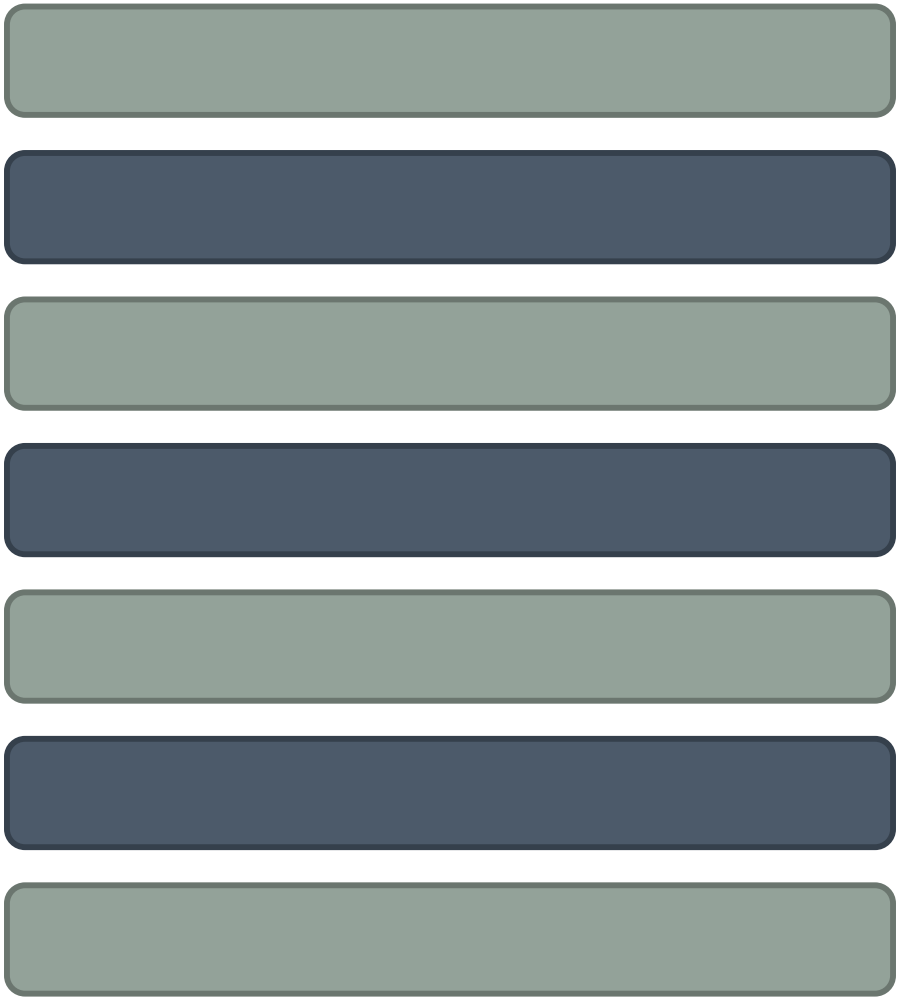
Q1 meeting

Q2 meeting

Q3 meeting

Q4 meeting

Should we have more?



Can (some of them) be non-physical?

…BUT THEN WHO GETS TO VOTE?

Current voting rights based on physical attendance

Current voting rights based on physical attendance

That gets complicated if
we have non-physical meetings

An alternative:
voting eligibility based on (annual) dues

Makes it easy to determine who can vote
(especially over time)

An alternative:
voting eligibility based on (annual) dues

REMEMBER: This is about *voting* eligibility

Anyone can still attend MPI Forum meetings

Or perhaps a mix between the two

Do we really want to allow voting at non-physical meetings?

- **Yes, let's move forward**
  - Requires decision on voting rights
  - Membership model
    - Fixed circle
    - Carry forward from last meeting
- **No, too complicated, needs to be F2F**
  - Can we make other progress?
  - "Pre-readings" to cut down on number of failed readings
  - Plenary discussions
- **Example: weekly meetings with fixed topic schedule**
  - WGs get tasked for particular meetings
  - Continuous feedback
  - Cut down on failed readings at F2F

Orthogonal: Working Groups

- **Most WGs meet bi-weekly**

- **Should they (be encouraged to) meet weekly?**

- **Keeps things more current**
  - Easier to continue discussions
  - Fixed slot on calendars

"As you can see, we've been able to significantly boost productivity by making everyone work much, much harder."

SECOND ANGLE

Releases

- or -

Are we overdue?

Are We Overdue?

- **Long time since MPI 3.0**
  - Even MPI 3.1 has been a while ago
  - Other standard – like OpenMP – are moving faster
- **Have several useful features in or likely in soon**
  - Fixes to several areas
  - Fault behavior clarifications
  - Persistent collectives
  - Send cancel deprecation
  - COMM-DUP and info hints/assertions
- **Is this enough?**
  - For an MPI 4.0 or MPI 3.5

A Different View (Rolf's Slide)

- **In HLRS's many training courses, always people like to have MPI as a book!**
  - MPI-2.1 (608 pages, 821g=29oz, June 23, 2008)
    - 916 printed / 738 sold / 178 unsold
    - MPI-2.2 (647 pages, 840g=29.6oz, Sep 4, 2009)
      - 921 printed / 900 sold / 21 unsold ☺ ☺
      - MPI-3.0 (852 pages, 1031g=36oz!!, Sep 21, 2012)
        - 1055 printed / 969 sold / 86 unsold ☺
        - MPI-3.1 (868 pages, 1066g=38oz!!, June 4, 2015)
          - 1040 printed / 487 sold (Sep 20, 2017) / 170 expected until end of 2018 / 383 unsold (still enough if MPI-4 is coming 2019/2020)

More Radical Changes

- **Pick next release date**
  - Sets a deadline
- **Pick fixed release schedule**
  - Sets deadlines
  - Regular progress
- **Adopt intermediate releases**
  - Every year before SC we publish a draft standard
  - Based on features voted in
  - Independent of full standard releases
  - Needs new rules on what is a draft release!

THIRD ANGLE

Streamlining

Options: Clean-up & Streamlining

- **Declutter list of of WGs**
  - Introduce mechanism for disbanding WGs
  - Require re-approval of WGs in regular intervals
- **Encourage better note taking**
  - Used to be more common for WGs
  - Introduce for plenaries and in person WGs (?)
  - Enables others to follow items better
- **Delegate side documents to WGs**
  - Can make changes on its own
  - Only re-publishing of document requires plenary vote
  - Even more drastic: re-publishing if no-one vetos
  - If this a candidate for phone meetings?

SUMMARY

How to Push MPI Forward?

How to Move Forward?

- **Get folks from new areas involved**
  - Direct / Personal contacts
  - Give them a voice and listen to their needs
- **Increased meeting schedule**
  - Add phone meetings to push forward proposals
  - Goal 1: reduce number of failed readings
  - Goal 2: get bigger topics through faster
- **Topics during phone meetings**
  - At least readings and general discussions
  - Anything else needs change of voting eligibility
  - Allow “smaller” items like errata?
- **Increase WG schedule**
  - Suggested interval weekly
  - Encourage better documentation

Summary

- Does it make sense to have more meetings? — **YES**
  - Especially if some of them don't require travel? — **YES**

- If so, does this require changing voting eligibility rules — **DEPENDS**
  - Based on dues? — **PROBABLY NOT**
  - Based on dues + physical attendance? — **MAYBE …?**
  - Other ways to reach a stable quorum? — **CARRY FORWARD?**

- Do we allow voting at non-physical meetings? — **DEPENDS**
  - If so, what do we allow voting on? — **ERRATA (?), SD(?)**
  - If not, how do we get people to attend? — **Suggestions?**

- Weekly WG meetings — **DEPENDS**