Computational Physics and Methods (CCS-2)
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My Platform for J3 Chair

I have applied for the J3 Chair position. Below is my platform and experience.

Platform

The goal of Fortran is to provide a programming language for high performance and technical computing which enables domain experts to program the latest computers and HPC systems with maximum simplicity, portability, and performance, while retaining compatibility with previous versions of the standard. The original mission of Fortran should still be the mission today: enable scientists, engineers, and other domain experts to write programs that naturally express the mathematics and algorithms employed, are portable across HPC systems, remain viable over decades of use, and extract a high percentage of performance from the underlying hardware.

The role of the Fortran Standards Committee is to steward the language and standardize new features that help move towards the language goal, while keeping them backwards compatible so that older codes continue working.

The role of the J3 Chair is described in the INCITS Organization, Policies and Procedures document[1], in general the Convenor is "responsible for presiding at meetings and ensuring that the program of work for that body is carried out in a prompt, efficient, and effective manner".

The WG5 Convenor is chairing the International WG5 Committee, the J3 Chair is chairing the U.S. Committee only.

If I become selected as the J3 Chair, I will work closely with the WG5 Convenor as well as the rest of the J3 Committee and the wider community to improve aspects described in this platform. It is similar to my platform when I ran for the WG5 Convenor job, but I have updated it with details what the J3 Chair can do to help implement those, by getting support from the WG5 Convenor as well as the J3 committee.

I have a good working relationship with all members of the J3 committee as well as the WG5 Convenor and I would only implement things for which there is wide support (which I would try to get as a J3 Chair).

To summarize my platform at a high level, it breaks down into the following bullet points:

[1] `http://www.incits.org/standards-information/policies`

- Efficient online interaction.
- Release on a faster fixed schedule.
- Adopt rules and procedures.
- Prior compiler implementation of new features.
- Be community driven.
- Use meeting time efficiently.
- Improve meeting logistics.
- Enforce the ISO Code of Conduct.

Let me explain why each point is needed and my plan how to get it done as a J3 Chair.

Efficient online interaction

For the forseeable future, the J3 Committee is going to operate remotely due to COVID-19. It is thus even more important than before to work as efficiently as possible online, learn how to propose, review and discuss proposals remotely.

The J3 Chair can help encourage the committee to use the J3 GitHub repository to work on proposals together with the wider community, and then efficiently review them in a timely manner at a remote committee meeting.

Furthermore, it is hepful to keep track of the current status, what proposals still need to be written, plan each remote meeting by announcing the schedule of what proposals will be reviewed, and make the whole process more transparent, so that more people can participate efficiently.

Release on a faster fixed schedule. This is one of the most upvoted proposals at our J3 proposals GitHub repository[2]. It fixes two issues: significantly speeds up getting new features into the language and at the same time prevents not well developed features from getting into the language by allowing as much time as needed to discuss and refine each proposal and only accept it when it is ready, without delaying a given standard release.

This is within the purview of the WG5 Convenor and the WG5 Committee, but the J3 Chair can help implement parts of the proposal that the WG5 Convenor agrees with, for example to spend some time to review community proposals at every J3 meeting. For parts where there is not currently an agreement with WG5, the J3 Chair can facilitate a discussion between the wider community and WG5.

Adopt rules and procedures. The J3 Committee currently does not have a written down set of rules how a new proposal will get reviewed and eventually accepted or rejected. I submitted a draft that many people upvoted of an example of such rules[3], which we can use as a starting point to discuss and agree on a set of operating rules and procedures. The J3 Chair can facilitate such a discussion.

Prior compiler implementation of new features. Traditionally the Fortran Committee standardizes many features that do not have a prior compiler implementations and uses the Standard as a driving

[2] `https://github.com/j3-fortran/fortran_proposals/issues/36`

[3] `https://github.com/j3-fortran/fortran_proposals/issues/98`

mechanism to force compiler vendors to implement such features. I propose to reverse the process and rather have a compiler implementation first. The common objection at the Committee is that compiler vendors do not have the time and money to do so. The long term solution is to have community compilers such as Flang and LFortran which would allow such new features prototyping. The J3 Chair should encourage such efforts. We might not be able to achieve for every single feature to be implemented first, but that is what we should strive for and we should encourage and try to do that.

Be community driven. The Committee should consider and discuss proposals from the Fortran community and focus on community priorities, as outlined by which proposals the community wants to see implemented[4]. In addition each proposal that the Committee considers should have high support at the J3 Github repository. The Committee should not consider proposals that have not been discussed at GitHub ahead of time, or do not have wide support. Furthermore the Committee should work more closely with the wider Fortran community. This fixes a long standing issue that the wider Fortran community sometimes feels (as evidenced by online posts and personal interaction) that the Committee does not listen. I have already started fixing this issue by creating the J3 GitHub repository and encouraging public participation in it, but as a J3 Chair I could help fix this faster by facilitating the dialog between the Committee and the wider Fortran community. By coming from the outside community, I have first hand understanding of the feelings and frustrations that Fortran practitioners often feel, and at the same time by being on the Committee I understand the background and history why the Committee sometimes operates the way it does and I think I can help bring the two sides together to work as one community on improving Fortran together and to improve the trust in each other.

Use meeting time efficiently. Currently almost no work is being done between meetings, and then valuable meeting time is used to develop new proposals from scratch and to have design discussions. That is very inefficient. I propose to develop proposals between meetings online at our J3 GitHub repository, discuss all the pros and cons remotely and try to agree on a path forward and polish the proposals as much as possible and also do initial review ahead of time. And use our in person meeting time to focus on review and decision making. I have already been very successful with getting the community to do a lot of work at our new J3 repository (9 submitted papers resulted from that effort), and as a J3 Chair I would encourage even wider participation of both the community and the Committee.

Improve meeting logistics. Currently we meet in a small room that sometimes does not have enough chairs or table space for all participants, does not have a projector and subcommittees must meet in hotel rooms. Rather, our goal should be to have enough rooms for both plenary and subcommittee meetings, have a projector and telecon equipment available. As a J3 Chair I would use my contacts in Industry, Academia and National Labs to try to find an affordable facility that would meet our goals. This points applies once COVID-19 is over.

Enforce the ISO Code of Conduct (CoC). The CoC is a tool to ensure that discussions are healthy and open to everyone. I have a lot of experience with running large open source communities and ensuring that discussions always stay healthy, that there is no abusive behavior, and that new

[4] `https://github.com/j3-fortran/fortran_proposals/issues?q=is%3Aissue+is%3Aopen+sort%3Areactions-%2B1-desc`

participants feel safe to discuss ideas. As a J3 Chair I would enforce the CoC and ensure that unprofessional behavior is not tolerated at any meeting.

Some of the above issues are specific to J3 Committee which the J3 Chair can help improve, some of them are within the purview of WG5. In both cases the best way to implement them is to get support in the J3 and WG5 committees and their leadership, and convince them that these are a good ideas to try to implement, and the J3 Chair should try to get such a support.

Experience

I am a long time Fortran user (15+ years developing in Fortran, 8+ years as my primary language). I have joined the U.S. committee on February 2019. I have a good professional relationship with and personally know all active members of the U.S. committee. Since I joined, I have worked to make the committee more inclusive and to involve the wider Fortran community more.

To that aim, I have started a J3 GitHub repository[5] for the wide Fortran community to submit proposals to the committee and worked on nurturing the community, which has been very successful (67 people contributed by commenting or writing proposals so far). I have convinced the J3 committee to start considering and giving quick feedback to community submitted proposals (from GitHub) at the plenary meeting and organized such review. I am the founding member of fortran-lang.org, the Fortran Standard Library[6] and the Fortran Package Manager (fpm)[7] projects and efforts. About 100 people contributed to these projects so far.

Thanks to these efforts, a total of 9 papers got submitted so far to the committee that otherwise would not have. In addition, one new member joined the committee in 2019, another was an observer in 2020, and several others are considering joining.

I have experience managing large open source online communities of a few projects that I started, such as SymPy[8] (over 15 years, over 919 contributors, 95 students as part of Google Summer of Code, which is a Google internship where I have been responsible for organizing SymPy mentors / students), or SymEngine[9] (69 contributors). I also started LFortran[10]: a modern interactive LLVM-based Fortran compiler (174 stars at GitHub). About 8 years ago I started a fortran90.org website for showing the best practices in modern Fortran.

In these communities I have successfully achieved a welcoming atmosphere that allows all ideas to be freely discussed and I have many times had to bring different sides together and figure out an acceptable path forward for everybody. I have a long (over 15 years) experience enforcing the Code of Conduct in these communities.

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[5] `https://github.com/j3-fortran/fortran_proposals`

[6] `https://github.com/fortran-lang/stdlib`

[7] `https://github.com/fortran-lang/fpm`

[8] `https://sympy.org/`

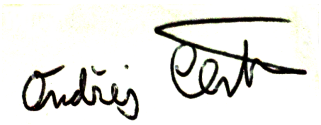
[9] `https://github.com/symengine/symengine/`

[10] `https://lfortran.org/`

I also have a lot of experience from various hiring and grant committees that I have been on.

Feel free to contact me if you would like any additional information or if you would like to meet (email, phone, video call, etc.) to discuss more.

Sincerely yours,



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