Summary:

The agenda for the meeting was focused on a presentation by the Co-Chairs of the Strategic Implementation Planning (SIP) System Architecture Working Group (SAWG) on their efforts related to the Graduate Student Test (GST). Prior to the presentation, upcoming UFS-SC meeting agendas were noted. See the following Google Drive link for tentative agendas:

https://drive.google.com/open?id=1VZ-ZO1weTb12usK1bIZHX25-zYXKHIH4

The 13 April UFS-SC meeting agenda tentatively includes a discussion on the interface/implications of the public release of the GFS (including repositories and support, in part in relation to funded project activities). The UFS-SC Co-Chairs stated that email lists and contacts related to the UFS-SC, along with a more complete perspective of the UFS-SC, are available at:

https://www.earthsystemcog.org/projects/ufs-sc/
As an additional update, it was noted that the FV3GFS was to be released publicly on the day of the meeting (30 March).

The SAWG presentation on the GST was provided - background material and the presentation for the meeting are documented here:

https://www.earthsystemcog.org/site_media/projects/ufs-sc/20180330_Background_UFS_SC.pdf

During the presentation, several items were discussed:

- Regarding the requirements for “change code”, initial thoughts were that changing run time parameters didn’t mean changing code but it was agreed that this should be addressed. The notion of exploiting parameter space was considered a viable way to go.

- Regarding the requirements for “evaluate code”, a comment was made that the availability/use of the Model Evaluation Tools (MET) package in evaluations was desirable. Employment of MET in the diagnostics was said to be feasible. In general, it was stated that there needs to be a relatively easy way for the graduate student to access diagnostics for them to be helpful.

- In the discussion of “transition code” requirements, the questions regarding the evolution and nature of public releases and operational codes and who would take responsibility were considered critical. A question was asked on how code could be run and whether the GST requirement limited runs to a linux desktop, for example, or whether code could be run on more simplified configurations (is portability part of GST?)? It was stated that the SAWG hasn’t really discussed this issue but portability across HPC systems was considered very important. Portability was considered to be another step up in terms of flexibility and support.

- During “scenario” discussions, it was mentioned that giving graduates the opportunity to use the UFS as a tool for research projects will lead to the generation of requirements. Providing the appropriate tools/infrastructure to assist the graduate student will optimize the chances of getting valuable results that are transitionable.

In terms of general scheduling related to moving the GST effort forward, it was stated that before activities such as obtaining/downloading the UFS can be initiated, the UFS needs to be more clearly defined. Incremental first steps need to be defined. The GST can be taken as a kind of systems project and could start to help define what goes on in other SIP working group efforts (including the Verification and Validation Working Group, for example). A larger span of efforts on the GST is needed. For example, the SIP communication plan could be impacted in terms of provisioning of educational material. In terms of getting real scenarios, it was stated that current proposals for students/projects should be considered for contribution to scenarios.
A comment was made that a strategy for support (infrastructure, good practices for software development, user’s guides, etc) has not been put in place. Need background in place for support. Support for the UFS is scattered across institutions. A master plan for coordination is needed.

Regarding related Developmental Testbed Center (DTC)/Global Model Test Bed (GMTB) activities, GMTB is tasked as a warehouse for atmospheric physics development. In that capacity, the GMTB is running the FV3GFS on a NOAA research platform supporting the community in physics development. In addition, the GMTB has a plan for their next period of performance to port a version of the FV3GFS to Cheyenne. The DTC has recently been granted a half million dollars for support of the Convective Allowing Model (CAM) to be stood up later in 2018. (Note: Comment added in review - We plan on calling the new GFS the "GFS". We currently have a HRRR and a NAM (Nest 3km) in our CAM realm. At some point folks will want a "name" for the UFS high resolution version of FV3. At what point do you think we will consider using a name for socialization? NAM stands for North American Mesoscale. Do we keep NAM and call it FV3NAM like we do with FV3GFS?)

The GMTB effort was thought to cover some of the key ingredients discussed in the GST presentation but overall efforts on the GST were thought to be piecemeal at this point. A more complete plan and strategy was said to be needed.

**Action:** The GST presentation will be sent to the other SIP working groups for review/comment. The UFS-SC will establish a plan to follow-up on the GST issue in the next several weeks.

Rapid planning on the GST issue was considered essential in order to project resource needs. Supplemental resources may be available to apply to this effort.

Regarding implications of the GST effort on the SIP communications plan, it was stated that the SIP Communications and Outreach Working Group is available to engage on development of the plan.

The building of a community of graduate students was considered desirable. It was stated that graduate students understand each other and their engagement is a way to build a healthy community.

It was stated that tools such as wikis, etc are considered a good way to capture the experiences of graduate students involved with NOAA. These can be used to develop an understanding of barriers and improve user guides, etc. A comment was made that a top-down approach in this collaboration is not the best approach. A recommended approach was to make tools available with light moderation from the top.

An additional comment was made that any developed plan should include an analysis of gaps.