

Building and Selling a Strategic Plan for your Research Computing and Data Program

Abstract

This workshop will bring together Research Computing and Data professionals to explore a formal framework for strategic planning, how to identify the stakeholders crucial to realizing a strategic plan, and successful approaches to winning support among these stakeholders. The workshop will foster the establishment of peer mentoring relationships, and an active practice of leveraging these relationships to share leading practices around strategic planning. The workshop is open to RCD professionals who are familiar with issues around supporting Research Computing and Data, have experience contributing to strategic planning, and have some exposure to the RCD Capabilities Model.

Keywords: Research Computing and Data, Research IT, Strategic Planning, RCD Capabilities Model

Workshop Goals

Research is increasingly dependent upon Cyberinfrastructure (CI), from instruments and sensors to Research Computing and Data¹ (RCD) infrastructure and services. RCD is being used in new domains and is expanding beyond High Performance Computing (HPC) into secure computing; big data management; AI/machine learning; and into heterogeneous compute models, edge computing, and cloud-based computing. The rapid evolution and diversification of RCD poses significant challenges to academic institutions as they try to effectively assess and plan for the necessary resources required to keep pace with the growing needs of researchers. The lack of a shared vocabulary to describe the various aspects of RCD support traditionally hindered efforts to discuss and plan coordinated efforts to advance support of, and for, researchers. These challenges are especially acute for smaller and emerging RCD support organizations, which often lack experience supporting RCD and have limited resources to develop an analysis framework for strategic planning.

To address these gaps, a collaborative team within the RCD ecosystem developed a Research Computing and Data Capabilities Model (RCD CM)² that allows organizations to self-evaluate across a range of RCD services and capabilities for supporting research, leveraging a shared vocabulary to describe RCD support. While many institutions are using this model for assessment and recognize its value as an input to strategic planning, feedback in various forums has highlighted a desire for training in the development of effective strategic plans, and in leading practices for building support for an RCD strategic plan among campus leadership and key stakeholders.

This workshop will bring together Research Computing and Data professionals to explore a formal framework for strategic planning, how to identify the stakeholders crucial to realizing a strategic plan, and successful approaches to winning support among these stakeholders. PEARC22 attendees interested in any of the areas of Workforce Development, Training, Diversity, and Education; Applications and Software: and/or Systems and System Software will come away with a better understanding of leading practices in strategic planning for RCD programs, how to map influence networks on their campus, and how to effectively communicate to and build support from key influencers. Participants will build connections to their peers around the country, and will have the chance to establish peer mentoring relationships to support their strategic planning work beyond the workshop.

¹ "Research Computing and Data" (abbreviated as RCD) includes technology, services, and people supporting the needs of researchers and research, and is intended as a broad, inclusive term covering computing, data, networking, and software. The National Science Foundation uses the term "cyberinfrastructure," and others use "Research IT."

² Patrick Schmitz, Claire Mizumoto, John Hicks, Dana Brunson, Gail Krovitz, James Bottum, Joel Cutcher-Gershenfeld, Karen Wetzel, Thomas Cheatham. 2020. A Research Computing and Data Capabilities Model for Strategic Decision-Making. In Proceedings of Practice & Experience in Advanced Research Computing (PEARC20). ACM, New York, NY, USA, <https://dl.acm.org/doi/10.1145/3311790.3396643>

The key goals for this workshop are to:

1. **Provide an introduction to frameworks for strategic planning**, and identify approaches to building a strong strategic planning practice, including influence mapping and effective communications with stakeholders.
2. **Share the experiences of universities** who are currently using the RCD Capabilities Model as part of their RCD strategic planning work, including lessons learned. We will solicit use-case narratives from institutions that have been engaged with the RCD Capabilities Model working group and community, and will select a small set of speakers to share experiences using the RCD CM in strategic planning work.
3. **Help participants identify personas for key stakeholders, and share best practices for building support** from each of these personas to support an RCD strategic plan.
4. **Foster the establishment of peer mentoring relationships**, and an active practice of leveraging these relationships to share leading practices around strategic planning.

This workshop builds upon a PEARC21 workshop on strategic planning for RCD programs, as well as earlier workshops that provided an introduction to the RCD Capabilities Model. While attendance at one of those is not a prerequisite for this, some familiarity with the Capabilities Model is expected (e.g., from exploration through the assessment tool, or by watching one of the webinars listed at <https://carcc.org/rcdcm/>). We will devote most of the workshop to the practices of strategic planning, and will not include a lengthy introduction to the RCD CM (which are now available in several forms).

The RCD Capabilities Model and related work

Ongoing work to support the RCD CM and related activities such as this workshop are supported through the RCD Nexus, an NSF-funded Cyberinfrastructure Centers of Excellence (CI CoE) demonstration pilot to develop a Research Computing and Data Resource and Career Center ([award NSF-2100003](#)). The initial version of the RCD CM was developed as a collaboration among the Campus Research Computing Consortium ([CaRCC](#)), [Internet2](#), and [EDUCAUSE](#), with support from the National Science Foundation (NSF OAC-1620695) and from many volunteers who provided input and review from a diverse set of universities (large and small, public and private) and related organizations.

Here are a few data points about current interest and usage of the Capabilities Model, which first became publically available in January 2020:

- 143 institutions have requested copies of the RCD CM Assessment tool, including 82 R1s (over half of all R1s in the U.S.) as well as 33 R2s, a broad range of other public and private institutions, 37 HBCUs, HSIs and other minority-serving institutions, and many EPSCoR-state institutions. They represent 47 states, 2 US territories, 4 Canadian Provinces and several international institutions.
- **88% of these institutions indicated “Strategic Planning”** as an intended use of the tool.
- The 2020 Community Dataset³ includes assessment data from 41 institutions and provides important insights into the state of support for RCD, at both a summary and more granular level. The 2021 Community Dataset (soon to be published) expands this to 52.

The Assessment Tool also allows institutions to mark specific capabilities as *priorities*, usually as input into their strategic planning work. The aggregated priorities data in the Community Dataset provide insight into the areas in which institutions plan to place emphasis, devote resources, etc. Among the roughly 150 areas of capability in the RCD CM, institutions indicated these two among their top priorities (i.e., as areas for particular attention; the overall rank is in parentheses):

- **Does your Research Computing and Data (RCD) team/group have a strategic plan? (#5)**
- **Are Research Computing and Data services funded in a sustainable manner? (#2)**

³ Patrick Schmitz. 2020. 2020 RCD CM Community Data report. <http://doi.org/10.5281/zenodo.4344057>

In the report, EPSCoR-state institutions listed these as their *top two* priorities, and the third highest was:

- **To what extent is there a clear vision, effective guidance, and strategy for the allocation and prioritization of support resources/personnel?**

Clearly, there is a strong interest in, and need for, strategic planning support, especially among institutions with less research funding and/or with emerging RCD programs. Additionally, in the report that organizers produced from our PEARC21 Workshop⁴, participants described resources that would be especially helpful in support of RCD strategic planning. Four main themes emerged:

1. A repository of templates, examples, and models of strategic planning
2. A collection of narratives and use-cases that describe successful programs
3. Examples and practices for communication strategies related to strategic planning
4. A program of mentoring and identifying expertise related to strategic planning

A national resource (as part of the planned RCD Nexus Resource and Career Center) is still in early development, however this workshop will address these areas of identified need by providing a forum to explore and share ideas and practices for each topic. It is worth noting that a specific request from the PEARC21 workshop participants was “more workshops like this!”

Workshop Agenda and Format

This full-day workshop will combine some presentation and panel discussions, but most of the time will be highly interactive, using breakout exercises as well as larger group discussion to identify and capture common themes. The ideas, contributions, and additional feedback will be incorporated into the ongoing planning for a national RCD Strategic Planning resource under the RCD Nexus. The workshop is structured as follows (a detailed agenda will be available to PEARC registrants on a workshop website):

- **Introductions and invited presentations** (90 minutes)
- **Exploration and sharing of strategic planning practices and challenges** (breakout groups followed by group discussion (60 minutes)
- **Facilitated exercise in influence mapping and identifying key stakeholders** (30 minutes)
- **Facilitated exercise in developing effective communication** to build support among key stakeholders (breakout groups organized by key stakeholder personas) 90 minutes
- **Introduction to peer-mentoring practices**, and small-group discussion/engagements on shared challenges, to **identify good candidates for peer-mentoring relationships**. (90 mins)

Workshop Facilitators

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Target Audience

The target audience for this workshop is campus Research Computing and Data professionals and leaders who are involved in or are exploring strategic planning for their programs, and are seeking more effective approaches to building support for their programs among key stakeholders. PEARC conferences have traditionally been an ideal venue for these sorts of discussions and engagement.

⁴ Schmitz, P., Brunson, D., Mizumoto, C., Jennewein, D., & Strachan, S. (2022). *Towards a National Best Practices Resource for Research Computing and Data Strategic Planning* (Technical Report [RCDNexus-TR-2022.1](#)).

Attendees' skill level: Attendees should be generally familiar with issues around supporting Research Computing and Data, have some exposure to the RCD Capabilities Model, and have experience contributing to strategic planning. Attendees need not be in leadership roles to contribute to the discussion, and people who are just beginning to prepare strategic plans, and/or who are in emerging RCD programs, are welcome.

Expected Attendance: Based upon community interest expressed at our related webinars and at previous PEARC workshops, we expect 60 to 75 attendees. Our format scales well from a smaller group up to the high end of that range, and we have sufficient facilitators to handle breakouts at this scale.

Recent offerings of related introductory workshops

In past years at PEARC and at EDUCAUSE, we held workshops that focused on the principles behind the RCD Capabilities Model, and how institutions could use the assessment tool. The half-day PEARC 2021 workshop built upon these, but emphasized practice and experiences around **strategic planning** for RCD. In response to 2021 participant feedback, this 2022 workshop expands to a full day on these ideas, continues the emphasis around strategic planning, and adds areas identified as particular needs.

Half-day workshop at PEARC21: [*Building a Strategic Plan for your Research Computing and Data Program*](#). Organizers: D. Brunson, D. Jennewein, C. Mizumoto, P. Schmitz, S. Strachan. This virtual workshop had 64 participants, and earned strongly positive evaluations and considerable engagement in defining “Desired elements of a strategic planning resource” for the community (documented in the workshop report cited above). Comments included:

“Great work, All! Smooth flow, logical progression, good amount of info shared for the time allowed (though I wish we'd had a whole day!).”

“The facilitator was fantastic and the panelists clearly knew what they were doing.”

Full day workshop at PEARC20: [*Leveraging a Research Computing and Data Capabilities Model for Strategic Decision-Making*](#). Organizers: Patrick Schmitz, Dana Brunson, Gail Krovitz, Thomas Cheatham, Claire Mizumoto. This workshop had 60 registered participants, and again evaluations were strongly positive. Comments included:

“Fantastic workshop and excellent tool/model! Very excited to move this forward...”

“Thanks, this is valuable, and please continue the great work!”

“It was a great introduction to the model.”

Full day workshop at EDUCAUSE 2019: [*Leveraging a Research IT Maturity Model for Strategic Decision-Making*](#). Speakers: Dana Brunson, Gail Krovitz, Claire Mizumoto, Patrick Schmitz. Sixteen campus leaders participated in a deep dive into the details of the model and its use in strategic planning. Participants showed enthusiasm for the model and its potential (95% of the workshop evaluations were “Excellent”). Comments included:

“Best session ever! Thank you for all of your work and a great presentation.”

“Great session with concrete take-aways.”

“Great to leave the workshop with an actual tool to be used with campus leadership.”

Half-day workshop at PEARC19: [*Leveraging a Research IT Maturity Model for Strategic Decision Making*](#). Organizers: Patrick Schmitz, Gail Krovitz, Dana Brunson, Thomas Cheatham, Alex Feltus, Jill Gemmill, Galen Collier, John Hicks, Claire Mizumoto, Karen Wetzel. This workshop had 46 participants from a range of schools across the country. Workshop evaluations were strongly positive. Comments included:

“This may have been the most useful workshop I've been to regarding research.”

“This was excellent—such a great intro.”

“Clear and helpful facilitation of workshop.”