| Summary page of Capabilities Model | results | | | | | | | | |
|--|----------------------|-------------------|-----------------------------|----------------------------|--------|-------------|-------------|---------|-----|
| Your Institutional Scope/Context: | Uni | versity of | Arkansas | | | | | | |
| For suggestions on how to approach filling this out, background about please follow this link to see the Introduction and Gu | | ies Model, (| etc., | | | | | | |
| Please do not alter/edit the tables below. These are computed from your answers on the 'Facings' sheets, and editing the tables will ju | ust break the sun | nmary functiona | ality. | | | | | | |
| Facing Area (click the "+" to the left of each to expand areas within) | Computed Coverage | Domain Support | Domain Weighted Coverage | | Сар | abilities C | overage | i | |
| Researcher Facing Capabilities Coverage | 0% | 0% | 0% | Researcher Facing | 0% | | | | |
| ata Facing Capabilities Coverage | 0% | 0% | 0% | Data Facing | 0% | | | | |
| oftware Facing Capabilities Coverage | 0% | 0% | 0% | Software Facing | 0% | | | | |
| ystem Facing Capabilities Coverage | 0% | 0% | 0% | System Facing | 0% | | | | |
| Strategy and Policy Facing Capabilities Coverage | 0% | 0% | 0% | Strategy and Policy Facing | 0% | | | | |
| Total Organizational Research Computing and Data Coverage | 0% | 0% | 0% | | 0% | 25% | 50% | 75% | 100 |
| dentified Local Priorities (first 5 from each Facing - click the "+" to the left of each to ex | (pand) | | | Domair | n Weig | hted Capa | bilities Co | overage | |
| Researcher Facing Capabilities Items | | | | Researcher | 0% | | 1 | 1 | |
| ata Facing Capabilities Items | | | | Facing | 0 % | | | | |
| oftware Facing Capabilities Items | | | | Data Facing | 0% | | | | |
| ystem Facing Capabilities Items | | | | Software | | | | | |
| trategy and Policy Facing Capabilities Items | | | | Facing | 0% | | | | |
| Comments (please note any issues or comments related to the Summary results) | | | | System Facing | 0% | | | | |
| (possession and possession and posse | | | | Strategy and Policy Facing | 0% | | | | |
| | | | | | 0% | 25% | 50% | 75% | 100 |
| | | | | | | | | | |
| Copyright © 2019 Internet2 and CaRCC, and licensed for use under Creative Commons Attribution-NoDerivatives 4.0 International (CC BY-ND 4.0) license. | | | | | | | | | |
| https://creativecommons.org/licenses/by-nd/4.0/) | | | | | | | | | |
| | | | | | | | | | |
| Questions? Suggestions? | | | | | | | | | |
| Try the 'Capabilities Model Introduction and Guide to Use' first, if you | have not alr | eady read t | hrough it. | | | | | | |
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| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | Local Priority | Notes, Questions, Comments |
|-------|--|------|------------------------------|--------------------------------------|----------------------------|----------------|-------------------|----------------------------|
| Resea | rch Computing and Data Staffing | | | | | 0% | | |
| | Do researchers have access to introductory user support and training related to the use of research computing and data resources available at local, regional, and national level? i.e., are there researcher-facing engagement and support staff who provide this? | 2 | | | | 0% | | |
| | Are researcher-facing staff provided with professional development and networking opportunities ? | ? | | | | 0% | | |
| | Do researcher-facing staff have the skills and capacity to broadly support researchers across levels (graduate students to Pls) and across domains with information about the use and effectiveness of new technologies? | ? | | | | 0% | | |
| | Can researcher-facing staff effectively serve as advocates for the research community to leadership and IT governance? | | | | | 0% | | |
| | To what extent is there a clear vision, effective guidance, and strategy for the allocation and prioritization of support resources/personnel? | | | | | 0% | | |
| Resea | rch Computing and Data Outreach (Initial Contact) | | | | | 0% | | |
| | Is there an institutional practice to proactively reach out to researchers , new faculty , or prospective faculty (for example during interviewing or new faculty onboarding processes) to explain research support services and help with computing beyond the desktop? | | | | | 0% | | |
| | Do researcher-facing staff have the skills and capacity to effectively engage in community outreach and broader impacts? | | | | | 0% | | |
| | Are researchers made aware of research computing and data related resources? E.g.: i. intra-campus resources (e.g., support, training, engineering, central IT services, library services, related centers or institutes) ii. cross-institution, regional, national, and/or international entities that comprise the larger ecosystem of Research Computing and Data (e.g., ACI-REF, Campus Champions, Research Software Engineers, CASC, CARCC, CI Engineers, PEARC)? | | | | | 0% | | |
| | Does your institution have a process to assess researcher awareness, satisfaction, and engagement related to Research Computing and Data services and support? | | | | | 0% | | |
| | Does your institution have a process to assess the impact of research computing and data support? | | | | | 0% | | |
| | Does your institution have marketing/communication resources (staff) with the skills and capacity to help publicize and explain research support services? | | | | | 0% | | |
| Resea | rch Computing and Data Advanced Support | | | | | 0% | | |
| | Do researchers have access to application support (training, help) for standard software packages, middleware, libraries, and modules? | | | | | 0% | | |
| | Do researcher-facing staff have the skills and capacity to diagnose inefficiencies , monitor usage , and advise on policies and optimizations to make for more efficient utilization of research computing and data resources? | | | | | 0% | | |
| | Are researcher-facing staff engaged with exploring , testing , and deploying emerging or advanced technologies to help research? | ? | | | | 0% | | |
| | Do researcher-facing staff regularly and effectively document processes, policies, and resources both internally and for the user community? | | | | | 0% | | |
| Resea | rch Computing Management of the Research Lifecycle | | | | | 0% | | |
| | Are researchers supported across the full research lifecycle ? i.e., are researchers supported during proposal development, during the active award, and post funding? <i>This may include support for project planning and proposal development, as well as providing research computing and data services.</i> | | | | | 0% | | |
| | Do researchers have access to advice on research compute and data compliance, security, management, and governance? | | | | | 0% | | |
| Resea | rcher Facing Capabilities Coverage | | | | | 0% | | |
| | | | | | | | | |
| | and Domains Support | ? | | | | | | |

| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | <u>Local</u> <u>Priority</u> | Notes, Questions, Comments |
|-----------------|---|------|------------------------------|--------------------------------------|----------------------------|----------------|---------------------------------|--|
| | Arts and humanities | | | | | 0% | | |
| | Computer science and engineering | | | | | 0% | | |
| | Health and life sciences | | | | | 0% | | |
| | Physical sciences | | | | | 0% | | |
| | Social sciences | | | | | 0% | | |
| Other Domain | (specify additional domain) | | Not relevant or applicable 0 | | | n/a | | Leave "Deployment at Institution" as "Not relevant" if you do not use this |
| Aggre | gate Domain support | | | | | 0% | | |
| | | | | | | | | |
| Comme | nts (please note any issues or comments related to the Researcher Facing questions) | | | | | | | |
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| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | Local Priority | Notes, Questions, Comments |
|--------|---|------|------------------------------|--------------------------------------|-------------------------|----------------|-------------------|----------------------------|
| Data 0 | reation | | | | | 0% | | |
| | Do researchers have access to consulting on data lifecycle requirements during data creation (e.g., anticipating metadata, storage, reuse, publisher requirements, funder requirements)? | ? | | | | 0% | | |
| Data D | iscovery and Collection | | | | | 0% | | |
| | Do researchers have access to data discovery consulting , i.e., to help them identify appropriate data repositories (on campus, in domains, and more generally)? Note: this may come from Research Computing and Data staff, library staff, or other partners. | | | | | 0% | | |
| | Do researchers have access to expertise about common Terms of Service for frequently crawled websites/data repositories and best practices guidance? E.g.,: i. library or other staff with knowledge about common Terms of Service for frequently crawled websites/data repositories and best practices guidance? ii. library or other staff with skills and capacity to inform policies and educate researchers on data use agreements (DUAs)? | | | | | 0% | | |
| | Do researchers have access to software supporting data collection (i.e., for data crawling, scraping, gathering, etc.)? | | | | | 0% | | |
| | Do researchers have access to resources (e.g., staff) to develop software supporting data discovery and collection? E.g.,: i. resources to develop software for collection (crawling/scraping/etc.). ii. resources to develop user interfaces or do web development to collect and interact with data with appropriate security protocols and policies. | | | | | 0% | | |
| Data A | nalysis | | | | | 0% | | |
| | Do researchers have access to consulting and expertise on data wrangling/manipulation and data analysis? | | | | | 0% | | |
| | Do researchers have access to software that supports data wrangling/manipulation and data analysis? | | | | | 0% | | |
| | Do researchers have access to dedicated resources (e.g., staff) who can perform data wrangling/manipulation and data analysis ? | | | | | 0% | | |
| | Do researchers have access to resources (e.g., staff) for software development of tools that support data wrangling/manipulation and data analysis ? | | | | | 0% | | |
| Data \ | isualization | | | | | 0% | | |
| | Do researchers have access to consulting and expertise on data visualization? | | | | | 0% | | |
| | Do researchers have access to software that supports data visualization? | | | | | 0% | | |
| | Do researchers have access to dedicated resources (e.g., staff) who can perform data visualization ? | | | | | 0% | | |
| | Do researchers have access to resources (e.g., staff) for software development of tools that support data visualization ? | | | | | 0% | | |
| Resea | rch Data Curation, Storage, Backup, and Transfer | | | | | 0% | | |
| | Do researchers have access to consulting and expertise to help them identify appropriate data repositories (on campus, in domains, and more generally) to place their data? | | | | | 0% | | |
| | Do researchers have access to resources (e.g., staff) who can advise and assist with database creation and data organization? | | | | | 0% | | |
| | Do researchers have access to tools/software that supports data backup, storage, and integrity checking ? | | | | | 0% | | |
| | Do researchers have access to resources (e.g., staff) who will develop tools/software that supports data backup, storage, and integrity checking? | | | | | 0% | | |
| | Do researchers have access to software and/or environments to deal with datasets that exceed what is generally available to individuals on a workstation or personal storage subscription? | | | | | 0% | | |

| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | <u>Local</u> <u>Priority</u> | Notes, Questions, Comments |
|--------|--|------|------------------------------|--------------------------------------|----------------------------|-------------------|---------------------------------|----------------------------|
| | Do researchers have access to consulting and expertise on metadata design and use . E.g., i. for establishing controlled vocabularies for metadata and metadata fields for repository systems? ii. for help with designing metadata applicable to their research? iii. for assistance in setting up metadata for reusable data sets, physical samples, research software? | | | | | 0% | | |
| | Do researchers have access to tools, consulting, and expertise on good practices for use of identifiers? Examples of good practice include: i. researchers are encouraged to use researcher identifiers; e.g., ORCID (https://orcid. org/), ResearcherID (https://www.researcherid.com/), Scopus Author ID, etc. ii. researcher identifiers are supported in the enterprise directory. iii. researcher shave access to mechanisms/services to establish unique digital identifiers (DOIs) for data. | | | | | 0% | | |
| Resea | rch Data Policy Compliance | | | | | 0% | | |
| | Does your institution have research data governance processes in place to establish data policies for research data? | | | | | 0% | | |
| | Do researchers have access to information and training on research data policy? E.g.: i. processes to support and inform users on policy compliance. ii. training on research data security protocols. iii. support for Data Management Plan (DMP) development. | | | | | 0% | | |
| | Do researchers have access to support for analysis of research data sensitivity? This may include: i. Data Use Agreement (DUA) review/analysis and consulting ii. Institutional Review Board (IRB) templates for datasets (with human or animal subjects), from small datasets that don't need HPC, up to large datasets that need HPC or Cloud services. iii. Support at the nexus of the IRB, legal counsel, and an office of sponsored programs. | | | | | 0% | | |
| | Do researchers have access to expertise and policy infrastructure to manage and use sensitive data? This may include: i. Data Management Plan (DMP) compliance services (institutional framework, etc.)? ii. expertise and consulting on contracts and government mandated data controls (e. g. FISMA, CUI, NIST 800-171, FEDRAMP, HIPAA, NAGPRA/Indigenous data rights)? | | | | | 0% | | |
| | Has your institution defined and deployed a process for identifying which research data to archive, preserve, or discard? | | | | | 0% | | |
| | Do researchers have access to planning expertise for storing, archival and preservation of research data beyond the term of grant funding? E.g., Do researchers' DMPs regularly include planning for the physical and/or cyber resources and facilities (including those supplied by third parties) that will provide data storage, archival, and/or preservation after the grant ends? | | | | | 0% | | |
| Data S | ecurity/Sensitive Data Support | | | | | 0% | | |
| | Do researchers have access to compute and data environments to manage and use moderately sensitive data (e.g. NIH dbGaP data controls)? This can include: i. tools, systems, and environments that can scale from small to large data sets (i.e., from workstations to VMs and up to high performance computing). ii. data security protocols in use, and monitored. | | | | | 0% | | |
| | Do researchers have access to compute and data environments to manage and use " notice triggering " data (e.g., PHI, HIPAA, Export Control, licensed data)? This can include: i. tools, systems, and environments that can scale from small to large data sets (i.e., up to high performance computing). ii. data security protocols in use, and monitored. | | | | | 0% | | |
| | Do researchers have access to compute and data environments to manage and use extremely sensitive data (e.g., requiring cold room/air-gapped storage and computing, closely monitored access, dedicated data stewardship etc.)? | | | | | 0% | | |
| | acing Capabilities Coverage | | | | | 0% | | |

| Area | Questions to consider for: University of Arkansas | Help | <u>Deployment at</u> <u>Institution</u> | Multi-Institutional Collaboration | Service Operating Level | Computed Value | <u>Local</u> <u>Priority</u> | Notes, Questions, Comments |
|-----------------|--|------|--|--------------------------------------|----------------------------|----------------|---------------------------------|--|
| | | | | | | | | |
| Fields | and Domains Support | ? | | | | | | |
| How st | trong is Data Facing support across these fields and domains | | | | | | | |
| | Arts and humanities | | | | | 0% | | |
| | Computer science and engineering | | | | | 0% | | |
| | Health and life sciences | | | | | 0% | | |
| | Physical sciences | | | | | 0% | | |
| | Social sciences | | | | | 0% | | |
| Other Domain | (specify additional domain) | | Not relevant or applicable 0 | | | n/a | | Leave "Deployment at Institution" as "Not relevant" if you do not use this |
| Aggre | gate Domain support | | | | | 0% | | |
| | | | | | | | | |
| Comm | ents (please note any issues or comments related to the Data Facing questions) | | | | | | | |
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| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | Local Priority | Notes, Questions, Comments |
|-------|---|---------|------------------------------|-----------------------------------|----------------------------|----------------|-------------------|----------------------------|
| Softw | are Package Management (installation, documentation, validation, and r | etireme | ent/removal) | | | 0% | | |
| | Do researchers have access to support for research software package compilation and installation? | ? | | | | 0% | | |
| | Do researchers have access to support, facilitation or training on how to compile, install, and deploy research software (e.g. The Carpentries, documentation on how to install and deploy anaconda environment, etc.)? | | | | | 0% | | |
| | Do researchers have access to support for research software package assessment , documentation , and validation ? I.e., to assess and document security issues, sustainability issues, export control issues, etc. associated with a software package of possible interest to researchers. | | | | | 0% | | |
| Resea | arch Software Development | | | | | 0 | | |
| | Do researchers have access to resources (e.g., staff) who can develop research software? E.g., staff to be written into grants to architect or develop specific research applications or workflow components. | | | | | 0% | | |
| | Do researchers have access to resources (e.g., staff) who can develop software for wide usage? (including websites, portals, etc.) | | | | | 0% | | |
| | Do researchers have access to security validation for research software ? (e.g., analysis for vulnerabilities that can be exploited by hackers, especially for locally developed software)? | | | | | 0% | | |
| | Do researchers have access to usability testing for research software developed on campus? | | | | | 0% | | |
| | Do researchers have access to software or website accessibility consulting, assessment tools, etc.? | | | | | 0% | | |
| Resea | arch Software Optimization or Troubleshooting | | | | | 0% | | |
| | Do researchers have access to performance optimizing tools (e.g., Allinea/ARM Map, Intel VTune)? | | | | | 0% | | |
| | Do researchers have access to support and consulting to optimize software (e.g., to parallelize code, to port to GPUs or other new architectures, to analyze and improve efficiency, etc.)? | | | | | 0% | | |
| | Do researchers have access to diagnostic and troubleshooting software (e.g., Allinea DDT, Intel Inspector)? | | | | | 0% | | |
| | Do researchers have access to support and consulting for diagnosing and troubleshooting software? E.g., when migrating codes to new cluster environments, new operating systems, etc. This does not include deeper code porting or rewrite for new hardware, GPUs, etc. | | | | | 0% | | |
| Work | low Engineering | | | | | 0% | | |
| | Do researchers have access to support for research workflow packages (e.g., Toil, Pegasus, NextFlow)? | | | | | 0% | | |
| | Do researchers have access to expertise and basic support to develop or script data workflows? E.g.,: i. support for initializing a research computing and data workflow? ii. consulting on basic, common workflows, or guidance on good practices in developing custom workflows? | | | | | 0% | | |
| | Do researchers have access to dedicated staff resources to develop or script data workflows? E.g.,: i. authoring of advanced or specific workflows for given research areas (e.g., for genomics, for clinical research, for social sciences, etc.). ii. support for optimizing a research computing and data workflow? This does not/need not include complete implementation of workflows. | | | | | 0% | | |
| Softw | are Portability, Containers, and Cloud Computing | | | | | 0% | | |
| | Do researchers have access to support for making software portable? (e.g., software repositories, containerization, etc.) | | | | | 0% | | |

| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | <u>Local</u> <u>Priority</u> | Notes, Questions, Comments |
|-----------------|---|------------|------------------------------|--------------------------------------|-------------------------|----------------|---------------------------------|--|
| | Do researchers have access to guidance or training for cloud computing? This can include: i. Local private campus cloud infrastructure ii. National (e.g., XSEDE-supported) cloud infrastructure iii. Commercial cloud platforms (e.g., AWS, Azure, GCP, etc.) | | | | | 0% | | |
| | Do researchers have access to dedicated resources (e.g., staff) for architecting and deploying cloud solutions? This can be platform independent, and may include: i. Platform evaluation/comparison, cost estimation ii. Orchestration design and development (Kubernetes, Puppet, Chef, etc.) | | | | | 0% | | |
| Secur | ing Access to Software | | | | | 0% | | |
| | Do researchers have access to credential systems as an element of software security? E.g., access to and support for integration with systems like CAS, Shibboleth, SAML, Single-Sign-on, etc. | | | | | 0% | | |
| | Do researchers have access to support for utilizing licensed software on shared resources? E.g., do researchers have access to a common / shared software license server? | | | | | 0% | | |
| | Do researchers have access to support for managing export controlled software? | | | | | 0% | | |
| | Are processes defined and adhered to for educating, monitoring, and auditing Research Computing and Data staff, other IT professionals, and researchers, to comply with software license agreements ? | | | | | 0% | | |
| Softw | are Associated with Physical Specimens (e.g., samples, research / museum of | collection | าร) | | | 0% | | |
| | Do researchers have access to management software for physical collections? | | | | | 0% | | |
| | Do researchers have access to software for discovery and research use of physical collections? | | | | | 0% | | |
| | Do researchers have access to resources (e.g., staff) for software development for discovery and research use of physical collections? | | | | | 0% | | |
| Softw | are Facing Capabilities Coverage | | | | | 0% | | |
| | | | | | | | | |
| | and Domains Support | ? | | | | | | |
| How st | trong is Software Facing support across these fields and domains | | | | | | | |
| | Arts and humanities | | | | | 0% | | |
| | Computer science and engineering | | | | | 0% | | |
| | Health and life sciences Physical sciences | | | | | 0% 0% | | |
| | Social sciences | | | | | 0% | | |
| Othor | | | Not relevant or | | | U /0 | | |
| Other Domain | (specify additional domain) | | applicable 0 | | | n/a | | Leave "Deployment at Institution" as "Not relevant" if you do not use this |
| Aggre | egate Domain support | | | | | 0% | | |
| _ | | | | | | | | |
| Comm | ents (please note any issues or comments related to the Software Facing questions) | | | | | | | |
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| rea | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | <u>Local</u> <u>Priority</u> | Notes, Questions, Comments |
|------|--|------|------------------------------|--------------------------------------|----------------------------|-------------------|---------------------------------|----------------------------|
| fras | tructure Systems | | | | | | | |
| fras | ructure Support | | | | | 0% | | |
| | Do your systems-facing staff have access to a fully functional and reliable data center (e.g., full time IT operations and equipment facility)? | ? | | | | 0% | | |
| | Is the data center professionally managed? (e.g. dedicated FTEs, change management, 24/7, person-trap, closed circuit video, appropriate access controls and auditing) | | | | | 0% | | |
| | Are there institutional resources for leveraging commercial cloud services for research computing and researchers? | | | | | 0% | | |
| | Are deployment, operations, and maintenance of your infrastructure automated (e.g. foreman, razor, puppet, ansible, chef)? | | | | | 0% | | |
| | Do systems staff have the skills and capacity to support container deployment and orchestration (via APIs, kubernetes, docker, singularity)? | | | | | 0% | | |
| omp | ute Infrastructure | | | | | 0% | | |
| | Do researchers have access to high performance (batch) computing (HPC)? | | | | | 0% | | |
| | Do researchers have access to high throughput computing (HTC)? | | | | | 0% | | |
| | Do researchers have access to a production-level compute, storage, and network environment? | | | | | 0% | | |
| | Do researchers have access to specialized hardware capabilities, such as accelerators (e.g. GPU, FPGA)? | | | | | 0% | | |
| | Do researchers have access to interactive computing services? E.g., support for VDI, Gateways, JupyterHub. | | | | | 0% | | |
| | Is a standardized set of operating systems supported for HPC, workstations, and/or virtual machines? | | | | | 0% | | |
| oraç | je Infrastructure | | | | | 0% | | |
| | Do researchers have access to active data storage services (a.k.a., "scratch" storage, often a parallel filesystem) sufficient for HTC/HPC? | | | | | 0% | | |
| | Do researchers have access to sufficient storage to support researchers' data intensive computing needs? | | | | | 0% | | |
| | Do researchers have access to mechanisms for isolated and secure support for storage of sensitive/secure data? | | | | | 0% | | |
| | Do researchers have access to policies and technologies that facilitate management and wide access to data? E.g.,: i. Automated tiering and data migration ii. Security/compliance management support for sensitive/controlled data that require special access/export controls | | | | | 0% | | |
| | Do researchers have access to data archival and preservation services (e.g. tape, cloud)? | | | | | 0% | | |
| | Do researchers have access to a place to store final research data to address institutional policy and/or funding agency requirements? | | | | | 0% | | |
| | Do researchers have access to support for collaborative data grids and/or data repositories (national-local-commercial:: e.g.: OSN, iRODS, etc)? | | | | | 0% | | |
| two | rk and Data Movement Infrastructure | | | | | 0% | | |
| | Do researchers have access to a high-performance network that supports research within campus? | | | | | 0% | | |
| | Do researchers have access to a Science DMZ (a means to securely enable high performance inter-campus data flows that bypass campus firewalls)? | | | | | 0% | | |

| Conception the second control of the property | Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | Local Priority | Notes, Questions, Comments |
|--|--------|--|------|------------------------------|-----------------------------------|-------------------------|----------------|-------------------|----------------------------|
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| (e.g., for institutional and funding agency reporting purposes)? | | Is performance data (on resources that support research) analyzed and used for operational decision making? | | | | | 0% | | |
| Change Mngmnt, version control, administration, and ticketing 0% | | Is a method in place to track and report resource usage at the researcher/project level (e.g., for institutional and funding agency reporting purposes)? | | | | | 0% | | |
| · · · · · · · · · · · · · · · · · · · | Chang | ge Mngmnt, version control, administration, and ticketing | | | | | 0% | | |

| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | Local Priority | Notes, Questions, Comments |
|-------|---|------|---------------------------|-----------------------------------|----------------------------|----------------|-------------------|----------------------------|
| | Do Research Computing and Data staff follow a documented change management process? | | | | | 0% | | |
| | Do Research Computing and Data staff utilize version control repositories of services and infrastructure data (i.e., configuration management)? | | | | | 0% | | |
| | Do Research Computing and Data staff leverage a ticketing system for user support? | | | | | 0% | | |
| | Do Research Computing and Data staff follow an established procedure for privileged account management among the administrators, including tracking of elevated privileges? | | | | | 0% | | |
| | Have Research Computing and Data staff established a workflow environment to support end-to-end network performance troubleshooting? | | | | | 0% | | |
| Docu | mentation | | | | | 0% | | |
| | Do Research Computing and Data staff produce and regularly maintain systems facing documentation? | | | | | 0% | | |
| | Do Research Computing and Data staff have documented processes, procedures, and policies for infrastructure management? | | | | | 0% | | |
| Plani | ing | | | | | 0% | | |
| | Do Research Computing and Data planning processes include/incorporate security and compliance considerations? | | | | | 0% | | |
| | Do Research Computing and Data staff follow a formal process for procuring research computing, data, networking, etc. resources ? (e.g., noting requirements, benchmarks, cost analysis, acceptance plans, terms and conditions, etc?) | | | | | 0% | | |
| | Is a systems and infrastructure lifecycle plan defined and maintained? | | | | | 0% | | |
| | Are researchers and governance roles engaged to explore gaps and to address emerging needs and technologies? | | | | | 0% | | |
| | Are systems-facing staff engaged with exploring, testing, and deploying emerging or advanced technologies to help research? | | | | | 0% | | |
| Syste | ms Security and Compliance | | | | | | | |
| Best | security practices for open environments | | | | | 0% | | |
| | Is Research Computing and Data (RCD) security coordinated with institutional IT Security and Compliance? E.g., i. Is the institutional IT security team leveraged for training and education? ii. Do RCD staff leverage institutional compliance resources/offices? | | | | | 0% | | |
| | Are Security Best practices implemented (such as those from NIST, trusted CI, CVE, and others)? E.g., i. Are security zones defined for different data sets and science workflows? ii. Is monitoring in use for intrusion detection, malware, and other threats? | | | | | 0% | | |
| | Is there a security incident response plan, and an associated response team? i. Are the associated procedures followed when incidents arise? ii. Are the plan and team membership reviewed on a regular basis (e.g., annually)? | | | | | 0% | | |
| Syste | m Facing Capabilities Coverage | | | | | 0% | | |
| F:-1: | and Demoine Comment | 0 | | | | | | |
| | s and Domains Support trong is System Facing support across these fields and domains | ? | | | | | | |
| HOW S | Arts and humanities | | | | | 0% | | |
| | Computer science and engineering | | | | | 0% | | |
| | Health and life sciences | | | | | 0% | | |
| | Physical sciences | | | | | 0% | | |
| | Social sciences | | | | | 0% | | |

| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Service Operating Level | Computed Value | Local Priority | Notes, Questions, Comments |
|-----------------|--|------|---------------------------------|--------------------------------------|----------------------------|----------------|-------------------|--|
| Other Domain | (specify additional domain) | | Not relevant or applicable 0 | | | n/a | | Leave "Deployment at Institution" as "Not relevant" if you do not use this |
| Aggre | gate Domain support | | | | | 0% | | |
| | | | | | | | | |
| Comme | ents (please note any issues or comments related to the System Facing questions) | | | | | | | |
| | | | | | | | | |
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| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Support Level | Computed Value | <u>Local</u> Priority | Notes, Questions, Comments |
|---|---|------|---------------------------|-----------------------------------|---------------|----------------|--------------------------|----------------------------|
| Note: in this facing, interpretation of the answers is more abstract. E.g., "Deployment" will be interpreted as "support" or "adoption"; "Collaboration" may be on topics related question (e.g., shared practices for strategic planning), rather than directly on the activity in the question; and "Support Level" will be interpreted as the robustness of support practice or understanding. | | | | | | | | |
| Institu | tional Alignment (How policies and priorities are set) | | | | | 0% | | |
| | Does your Research Computing and Data (RCD) team/group have a strategic plan? i. Is this strategic plan updated on a regular basis (e.g., annually, semi-annually)? | ? | | | | 0% | | |
| | Is your Research Computing and Data (RCD) strategic plan aligned to campus plans? i. Does the RCD plan connect/relate to an institutional (campus-wide) strategic IT plan? ii. Does the RCD plan connect/relate to an overall institutional (campus-wide) strategic plan? | ? | | | | 0% | | |
| | Do the Research Computing and Data (RCD) service and support community and underlying IT service providers have a good awareness and understanding of major research efforts/initiatives across the institution? | | | | | 0% | | |
| | Are research priorities, and Research Computing and Data (RCD) strategic priorities well-understood by your institution's management and planning groups? i. Are the institution's research priorities well-understood by campus leadership? ii. Are RCD strategic priorites understood and supported by campus leadership? | | | | | 0% | | |
| | Does institution-level management and planning recognize and value the impact of Research Computing and Data (including return/value on investment)? E.g., are research computing and data services valued at the same level as or higher than other enterprise services when discussing of prioritization of campus (budget) resources? | | | | | 0% | | |
| | Are researchers effectively informed and made aware of Research Computing and Data (RCD) resources and services? i. Is there an institutionally defined role that includes responsibility to create awareness of RCD resources and services available on campus or externally? ii. Are RCD services documented in an accessible platform, such as an IT service catalog? iii. Is the importance of outreach and training recognized by campus leadership? | | | | | 0% | | |
| | Are Research Computing and Data (RCD) resources and services available in support of instruction or other pedagogical uses? E.g i. Can and do instructors leverage research computing resources for instruction? ii. Are instructors effectively informed about available resources? | | | | | 0% | | |
| Institu | tional Culture for Research Support | | | | | 0% | | |
| | Is there an understanding across the IT organization, research community, and institutional leadership of the distinction between Research Computing and Data services and standard (enterprise) IT services? Note: This does not imply greater importance of one or the other, nor is it meant to imply how an organization should support each. Rather, it is a recognition that the goals, constraints, metrics, and support models tend to be quite different. | | | | | 0% | | |
| | Is facilitation of Research Computing and Data services recognized as an important role to the campus? | | | | | 0% | | |
| | Are Research Computing and Data operating metrics captured and reported to leadership (IT, Office of Research, or other institutional leadership)? | | | | | 0% | | |
| Fundir | ng | | | | | 0% | | |
| | Are Research Computing and Data services funded in a sustainable manner? E.g., i. Is there recurring program budget for the staff and services operations (i.e., not primarily dependent upon grants or other non-recurring funding)? ii. Are campus funding partnerships formalized with an MOU or equivalent agreement? iii. For activities funded from contracts and grants, is there a strong track-record of renewed funding? | | | | | 0% | | |
| | Are new funding opportunities proactively identified and assessed at an institutional level, for relevance to institutional mission and alignment to Research Computing and Data needs and priorities? | | | | | 0% | | |
| | Do research funding activities actively integrate the Research Computing and Data (RCD) services group? E.g., i. Do RCD groups/teams collaborate with the Contracts and Grants groups/teams? ii. Do RCD staff assist Principle Investigators (PIs) with proposal preparation? | | | | | 0% | | |

| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Support Level | Computed Value | <u>Local</u> <u>Priority</u> | Notes, Questions, Comments |
|--|--|------|------------------------------|-----------------------------------|---------------|----------------|---------------------------------|---|
| | ng, interpretation of the answers is more abstract. E.g., "Deployment" will be in ared practices for strategic planning), rather than directly on the activity in the standing. | | | | | | | |
| | arch Computing and Data (RCD) services groups/teams ${f submit}$ (extramural) ${f grant}$ ${f s}$ for RCD investments and innovations? | | | | | 0% | | |
| Have Res (extramur | search Computing and Data (RCD) services groups/teams been awarded ral) grants they applied for, in support of RCD investments and innovation? | | | | | 0% | | |
| artnerships / | Engagement with External Communities | | | | | 0% | | |
| regional regional r | arch Computing and Data (RCD) services groups/teams actively engage with and/or national Research Computing and Data peers/communities (e.g. esearch network providers, CaRCC, CASC, Internet2, Campus Champions, NSF sig Data Hub, etc.)? | | | | | 0% | | |
| such as h | utional Research Computing and Data services provided to external users, osting data repositories, providing computing resources, etc.? E.g., are you a o XSEDE or the Open Science Grid (OSG) | | | | | 0% | | |
| funding, o | practice of active engagement of your institution in external partnerships (for or for advancing Research Computing and Data activities and interests? E.g., are onal partnerships, and/or active industry partnerships? | | | | | 0% | | |
| rofessional D | Development of Research Computing and Data Staff | | | | | 0% | | |
| opportun i. Do R | arch Computing and Data (RCD) staff provided with professional training lities? CD staff have access to funding for training? each RCD staff member have a professional development plan? | | | | | 0% | | |
| advancer i. Are th | arch Computing and Data staff provided with opportunities for career ment? nere clear career paths defined for each role? taff encouraged/supported in pursuing career advancement opportunities? | | | | | 0% | | |
| i. Do Ri groups, C | arch Computing and Data (RCD) staff permitted to use staff time to engage in or national community efforts? E.g.,: CD staff participate in regional networks, Campus Champions work, Linux user aRCC, etc.? CD staff contribute to the Carpentries work (training materials or activities)? | | | | | 0% | | |
| iversity, Equi | ty, and Inclusion | | | | | 0% | | |
| Is there a inclusion i. Are R ii. Does | policy and practice to ensure (and if necessary, improve) diversity, equity, and , on the Research Computing and Data (RCD) staff? ICD staff regularly surveyed on engagement, cultural climate, etc.? RCD management track this over time? In results used to develop ongoing strategies to improve diversity, equity, and | | | | | 0% | | |
| | arch Computing and Data recruitments (job listings) reviewed for inclusive to attract a broad range of applicants? | | | | | 0% | | |
| | arch Computing and Data staff have access to diversity, equity, and inclusion e.g., on unconscious bias, communication styles, multicultural awareness, etc.) | | | | | 0% | | |
| trategy and P | Policy Facing Capabilities Coverage | | | | | 0% | | |
| iolds and Dor | mains Support | ? | | | | | | |
| | strategy and Policy Facing support across these fields and domains | - | | | | | | |
| _ | humanities | | | | | 0% | | |
| | er science and engineering | | | | | 0% | | |
| | nd life sciences | | | | | 0% | | |
| Physical | | | | | | 0% | | |
| Social sc | | | | | | 0% | | |
| | dditional domain) | | Not relevant or applicable 0 | | | n/a | | Leave "Deployment at Institution" as "Not relevant" if you do not use thi |
| | main support | | | | | 0% | | |
| JJ - J | ", | | | | | | | |

| Area | Questions to consider for: University of Arkansas | Help | Deployment at Institution | Multi-Institutional Collaboration | Support Level | Computed Value | <u>Local</u> <u>Priority</u> | Notes, Questions, Comments |
|----------|--|-----------|------------------------------|--------------------------------------|---------------|-------------------|---------------------------------|----------------------------|
| question | this facing, interpretation of the answers is more abstract. E.g., "Deployment" will be (e.g., shared practices for strategic planning), rather than directly on the activity in or understanding. | | | | | | | |
| Comme | nts (please note any issues or comments related to the Strategy and Policy Facing q | uestions) | | | | | | |
| | | | | | | | | |
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| DO NOT EDIT TERMS!!! | Woight | Notes | Logio for cook row | Notes |
|--|-------------|---|--|---|
| Measuring Deployment at Institution | Weight 1 | Notes Weight for "Deployment at Institution" | Logic for each row IF ((LEFT(D3,3) <> "Not"), | Notes // Filter Not relevant |
| Deployment/support institution-wide - 5 | 1 | column. | MIN(1, | // Cap at 1 (allow for boost below) |
| Deployment/support institution-wide - 3 Deployment/support for parts of the institution - 4 | | Set to less than 1, to reduce the impact of this | (MAX (0, 1-(| // Safety to have Min 0 // Sum is discount from 1 |
| Planning, piloting, and initial deployment - 3 | | globally. | ((5-VALUE(RIGHT(D3)))*'Terms and Weights'!\$D\$2 | // Weighted Deployment at Inst |
| | | MUST be a value between 0 and 1 | +(5-VALUE(RIGHT(F3)))*'Terms and Weights'!\$D\$17) / (4*'Terms and Weights'!\$D\$2+4*'Terms and Weights'!\$D\$17))) | // Weighted Service Op Level // Normalize with sum of weights |
| Tracking potential use - 2 | | | * ((VALUE(RIGHT(E3))-1) | // Scale by the Collab level |
| No deployment or support - 1 | | | *((1-'Terms and Weights'!\$D\$10) +((2/3)*'Terms and Weights'!\$D\$10))), | <pre>// Base of .9 (if wt=.1), so discount for // "No" or "Exploring", else boost</pre> |
| Not relevant or applicable - 0 | | | "n/a") | // If row not relevant, return "n/a" |
| Measuring Multi-Institutional Collaboration | 0.1 | Weight for "Multi-Institutional Collaboration" | | |
| Leading multi-institutional collaboration - 5 | U. . | column. | Logic combines Deployment and Service Operating Level equally and then scales | |
| Sustaining multi-institutional collaboration - 4 | | Set to less than 1, to reduce the impact of this | up or down with collaboration: | |
| Piloting multi-institutional collaboration - 3 | | globally. MUST be a value between 0 and 1 | It gives a penalty for "No existing" and "Exploring", a neutral impact for "Piloting" and a boost for "Sustaining" and "Leading" | |
| Exploring multi-institutional collaboration - 2 | | MOST be a value between value i | Thoung and a boost for custaining and Ecdang | |
| No existing multi-institutional collaboration - 1 | | | | |
| TO STICKING STATE HORIZONIA CONDUCTOR TO | | | | |
| Service Operating Levels | 1 | Weight for "Service Operating Level" column. | | |
| Priority/Premium - 5 | | Set to less than 1, to reduce the impact of this | | |
| Basic/Economy - 4 | | globally. MUST be a value between 0 and 1 | | |
| Lights on Only - 3 | | WOST be a value between 0 and 1 | | |
| Substantial Risk of Failure(s) - 2 | | | | |
| No existing service or support - 1 | | | | |
| | | | | |
| Support Levels | 1 | Weight for Alternate term list on Strategy & | | |
| Strong Support, Awareness, Commitment- 5 | | Policy facing sheet, replacing "Service | | |
| Basic Sustained Support and Awareness - 4 | | Operating Level" with "Support Level" Defaults to weight for Service Operating Level. | | |
| Minimum Resources & Commitment - 3 | | MUST be a value between 0 and 1. | | |
| Very limited support, and At Risk - 2 | | | | |
| No existing support or awareness - 1 | | | | |
| | | | | |
| Fields and Disciplines support levels | 0.7 | Weight for "Fields and Disciplines" factor. | | |
| Strong Support 3 | | Set to less than 1, to reduce the impact of this globally. | | |
| Limited Support 2 | | MUST be a value between 0 and 1 | | |
| Little or no support 1 | | | | |
| Not relevant or applicable 0 | | | | |
| | | | | |
| Fields and Disciplines | | | | |
| Arts and humanities | | | | |
| Computer science and engineering | | | | |
| Health and life sciences | | | | |
| Physical sciences | | | | |
| Social sciences | | | | |
| | | | | |
| Local Priority | | Note this is just for your own use, and does not | | |
| High Prio | | impact the model calculations in any way | | |
| Med Prio | | | | |
| | | | | |