
THE IRODS CONSORTIUM

DRAFT CHARTER



TERMINOLOGY

iRODS – integrated Rules Oriented-Data System

iRODS-based data middleware – any data middleware implementation that is based on the iRODS technology and interoperable with iRODS protocols for authentication, transport, rule language, server interaction, and client access.

UNC-Chapel Hill – University of North Carolina at Chapel Hill

RENCI - The Renaissance Computing Institute – RENCi develops and deploys advanced technologies to enable research discoveries and practical innovations. RENCi was launched in 2004 as a collaborative effort involving the UNC Chapel Hill, Duke University and North Carolina State University.

DICE – The Data Intensive Cyber Environment (DICE) Center at the University of North Carolina at Chapel Hill. This group is the primary administrative home of the original iRODS development team.

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EXECUTIVE SUMMARY

The integrated Rule-Oriented Data System (iRODS) is a leading open-source data management solution that has been adopted worldwide by the academic research community, research organizations, governmental agencies, and private interests. The integrated Rule-Oriented Data System (iRODS) Consortium is tasked with promoting the sustainability of the iRODS technology and furthering its adoption and continued evolution. To this purpose, the Consortium is producing IRODS, an open-source, mission-critical, production-level branch of iRODS while working synergistically with Consortium members and the existing iRODS community to promote standardization of the iRODS data middleware technology, to evangelize iRODS among potential users, to promote new advances in iRODS, and to expand the adoption of iRODS-based data middleware technologies. The establishment of the iRODS Consortium will provide the mechanism for bringing together members with vested interest in the success and sustainability of iRODS.

WHY THE CONSORTIUM IS NEEDED

iRODS is a community-driven, open-source, software environment that is maintained by the DICE Center at the University of North Carolina at Chapel Hill, with contributions from multiple groups throughout the world. The iRODS effort is focused on providing academic research communities with distributed, policy-based data management technologies while concurrently engaging in research to identify new approaches for addressing challenges in data management and preservation. iRODS is funded primarily through research grant awards from the National Science Foundation (NSF). The applied research component of iRODS, as well as its adoption by several research communities, has allowed the DICE group and the iRODS community to advance new directions and solutions in data technologies. Due to its capabilities, iRODS is now a leading technology for managing data within research communities and across the global research community.

The sustainability of the iRODS technology—exemplified by financial solvency, stability of the data management solution across software releases, the ability to meet new demands, adapt to new technologies, and support new approaches to data management—is of paramount concern to potential adopters of iRODS. Many organizations must see a comprehensive strategy for sustainability before adopting iRODS as a key component of their data management infrastructure. However, no single organization has the necessary resources, market visibility, or mission to ensure the sustainability and growth of iRODS as an open-source technology.

Ensuring that iRODS is sustainable and broadening the adoption of iRODS represents significant challenges. Towards this end, RENCi and UNC-Chapel Hill have been working with the iRODS development team and the iRODS community on developing iRODS that is tailored for use in enterprise-level deployments and designed for easier adoption by users and developers.

Key features of IRODS include the packaging and certification of binary distributions, a greater level of system-level testing, the modularization of the code base to allow for pluggable components and easier integration with legacy systems, and the hardening of the code to reduce potential bugs and security concerns. The IRODS team integrates new features and bug fixes after the software code

has been thoroughly tested and brought to conformance with the best software engineering practices.

The iRODS Consortium is a consortium of universities, research organizations, companies, and government agencies that together will work to provide the guidance and obtain the funding needed to ensure that IRODS evolves in a manner that protects the investments of the Consortium members. The Consortium will fund and guide, in a neutral, non-competitive environment, the development of IRODS for use by Consortium members and non-members. Consortium members receive a variety of benefits, including prioritized access to support, training, and consulting and the opportunity to influence the developmental roadmap of future software releases, thus providing both adopters and resellers of IRODS and other iRODS-based data middleware technologies a way to protect their investments.

VISION AND MISSION STATEMENTS

VISION STATEMENT

The iRODS Consortium aims to develop the iRODS technology into a widely-adopted, sustained, middleware technology that enables effective and efficient data management, sharing, and integration within and across academic, federal, and industry enterprises.

MISSION STATEMENT

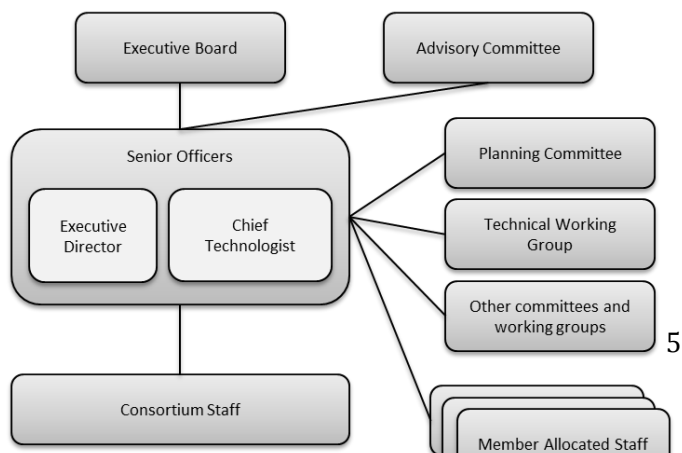
The mission of the iRODS Consortium is to ensure the sustainability of the integrated Rule-Oriented Data System (iRODS) and to further its adoption and continued evolution. To this end, the Consortium will work to standardize the definition, development, and release of iRODS-based data middleware technologies, evangelize iRODS among potential users, promote new advances in iRODS, and expand the adoption of iRODS-based data middleware technologies through the development and release of iRODS, as an open-source, mission-critical, production-level branch.

CONSORTIUM ORGANIZATION

The iRODS Consortium will operate under RENCi, a research institute in the University of North Carolina at Chapel Hill, in partnership with the Max Planck Society, located in Munich, Germany, as the first external Founding Member. As shown in Figure 1, the Consortium will consist of several working committees composed of both Consortium staff and member representatives, a team of senior officers and staff located at RENCi, and satellite teams of staff as from the Max Planck Society and other member organizations that are working directly with the Consortium.

EXECUTIVE BOARD

Governance of the Consortium will be provided through an Executive Board that will consist of representatives from RENCi,



DICE, the Max Planck Society, and other Members with appropriate rights.

ADVISORY COMMITTEE

The Consortium will maintain an advisory board of officials with expertise in data technologies, iRODS, and academic, federal, and industry sectors that represent existing and potential users of iRODS. The advisory board will serve as a forum for the governance of the Consortium, for evangelism of Consortium activities and iRODS in general, and for discussions of technical information related to Consortium activities.

FIGURE 1: CONSORTIUM STRUCTURE

PLANNING COMMITTEE

The Consortium will include a Planning Committee that will serve to develop strategic plans and oversee implementation of plans for Consortium Activities. A key function of the Planning Committee will be to publish approved Release Roadmaps for all Consortium developed software, including iRODS. Representation from voting and participating member organizations will provide critical input and oversight for the success of this Committee.

TECHNOLOGY WORKING GROUP

The Consortium will include a Technology Working Group that will serve to organize technical activities, develop technical plans, and oversee implementation of technical activities engaged in by the Consortium. A key function of the Technology Working Group will be to produce draft software standards for approval by members, to produce draft release plans for Consortium developed software, and to develop Consortium documentation and software, including iRODS. Inclusion of technical staff allocated from select member organizations in the Technology Working Group will aid in ensuring the iRODS middleware technology and Consortium practices are informed by a breadth of technical know-how and best practices.

EXECUTIVE DIRECTOR

The Consortium's Executive Director will be responsible for ensuring the Consortium is responsive to its vision, mission, and the needs of member organizations. The Director will provide for management of administrative and infrastructure operations and staff, oversight of the financial operations of the Consortium, management of relationships with Consortium members, recruitment of new Consortium members, development and presentation of reports, and organization of events conducted by the Consortium.

CHIEF TECHNOLOGIST

The Consortium's Chief Technologist shall ensure that all products delivered by the Consortium, including iRODS, other related software products, documentation, standards, and technical reports are produced on time with a level of quality expected by member institutions and the broader IT community. The Chief Technologist will work with technical experts in member organizations and other technical experts to ensure the Consortium products incorporate innovative technological advances and best practices for the management of data. The Chief Technologist will also ensure

that new features and capabilities generated by the broader iRODS community are incorporated into iRODS.

CONSORTIUM STAFF

In addition to the Executive Director and Chief Technologist, the Consortium will employ a core team focused on the development of the iRODS software, including software developers, software testers, technical writers, and staff that can provide technical support in the use of iRODS. The core team will consist of staff from RENCi and a satellite team of staff allocated by the Max Planck Society.

The Consortium will from time to time work directly with staff allocated by other member organizations to further aid in software development, testing, and support. Staff from member organizations will work closely with Consortium staff to provide cross fertilization of knowledge and best practices, thus creating a virtual development team that furthers the Consortium mission. The Consortium will also act to steer consulting, contract, and grant-based work from members, non-members, and funding agencies to staff at select member organizations.

CONSORTIUM MEMBERSHIP

Consortium memberships at the following levels are open to all public and private entities, including research organizations, government agencies, and companies. The Sustaining Membership class includes RENCi, the Max Planck Society, and DICE.

All Consortium members are granted rights to: participate in the Consortium Planning Committee and other working groups and committees formed as needed to advance Consortium activities; helpdesk support, training, and consulting; attend Consortium events; access Consortium documentation; and use the Consortium to disseminate member software, documentation, and marketing material. Such rights generally will include for membership classes with higher membership fees. Additional summaries on the benefits of each membership level can be found in the iRODS Consortium Membership Benefit Table.

Founding Members are entities that contribute membership fees of \$150,000 or more per year. All Founding Members are granted voting rights on the Executive Board and Planning Committee, thus providing Founding Members the right to influence the Governance of the Consortium and to influence Consortium activities, such as the software release roadmap for iRODS. Founding members receive the highest level of support from the Consortium and have the highest priority for accessing Consortium resources. In addition, Founding Members have highest priority for receiving funding from the Consortium for iRODS development and support and for collaborating on new funding opportunities.

Sustaining Members are entities that contribute membership fees of \$75,000 or more per year. Like Founding Members, Sustaining Members are granted voting rights on the Executive Board and Planning Committee, thus providing Sustaining Members the right to influence the Governance of the Consortium and to influence Consortium activities. Sustaining Members also receive high priority in accessing Consortium resources and receive high levels of support from the Consortium.

Professional Memberships are geared towards entities that desire voting rights on the software release roadmaps or entities that would benefit from greater access to networking and exposure to other groups that have or are adopting iRODS. Professional members will be granted voting rights on the Planning Committee, thus providing Professional Members the ability to directly influence Consortium activities, such as the release roadmap for iRODS and the development of data grid standards. Professional membership fees are set at \$35,000 per year.

General Memberships are geared towards entities that wish to be involved in Consortium activities and benefits without moving to a higher level of membership. General members are allowed to participate in Consortium committees and working groups, including the Planning committee. In addition, general members are provided comprehensive access to Consortium technologies, documentation, and events. General membership fees are set at \$10,000 per year.

Development Focused Members: The Consortium recognizes that prospective members may on occasion be able to contribute resources that are valuable for the Consortium Mission. In such cases, the Consortium may allow for the partial replacement of fees with contribution of resources subject to approval of the Executive Board.

CONSORTIUM ACTIVITIES

DEVELOPING IRODS: A BASIS FOR PRODUCTION USE AND ADVANCEMENT OF IRODS

SOFTWARE DEVELOPMENT AND DOCUMENTATION

The Consortium will perform the software development and documentation activities that are necessary to develop a version of the iRODS technology that is aimed at providing a highly extensible, well-tested, production-quality version of the iRODS technology. A primary objective of the Consortium is to produce an open-source implementation that can be used by Consortium members and non-members for deploying iRODS data middleware systems, for supporting applications that depend on iRODS technologies, or for extending the iRODS technology. The Consortium will provide the iRODS technology without licensing fees to Consortium and non-Consortium members.

The Consortium will direct future development of the iRODS implementation with the goal of maintaining compatibility with implementations within the iRODS community. The Consortium will also guide the integration of new functionality and source code from iRODS after the source code has been reviewed, developed to Consortium standards, and determined to fit within the requirements for data-middleware technologies.

The Consortium will develop extensions to iRODS-based technologies based upon directions set forth by Consortium members.

The Consortium's core team will coordinate and integrate software development and testing efforts, including the production of software documentation. Software development is expected to involve developmental teams within member organizations in different regions worldwide, as directed by members of the Consortium.

The Consortium will maintain a web site that will provide access to all software implementation releases, software documentation, mailing list management and archive, a frequently asked questions list, access to the request tracking system, and an ability to browse the source code repository.

PRODUCTIZATION, TESTING, AND CERTIFICATION

A key function of the Consortium will be to deliver packaged binary and source code distributions of the iRODS software and extensions to the software. The iRODS software development team will develop and implement roadmaps for the development and deployment of packaged binary distributions with the goal of making iRODS broadly available on a selection of operating systems guided by the needs of Consortium members and non-members.

All released distributions will be tested and certified by the Consortium. The Consortium, as part of its normal activities, will manage and approve the requirements for testing and certification.

The Consortium will guide and approve the development and distribution of certified and non-certified extensions to the data-middleware technologies. To encourage the development of extensions that are reliable and well-engineered, the Consortium will develop test suites to determine whether extensions properly implement standardized protocols and Application Programming Interfaces (APIs). The Consortium will maintain a web site where members and non-members will be able to download extensions and where members will be allowed to post open-source and proprietary extensions for distribution.

PROMOTING THE USE AND ADOPTION OF IRODS-BASED TECHNOLOGIES

The Consortium will pursue a number of dissemination and marketing efforts to encourage the adoption of iRODS-based data middleware technologies in industry, federal agencies, and academic institutions. In addition, the Consortium will pursue efforts to encourage the further development of data-middleware extensions, e.g., storage resource drivers, in order to increase the number of data systems that iRODS-based data systems can interface with and to increase the number of other data technologies that iRODS-based data systems can integrate with.

These efforts will include the development and maintenance of liaison relationships with other organizations, vendors, and individuals that are responsible for:

- Making decisions regarding the technologies adopted for data management and archiving.
- Developing standards for interfacing to data storage resources.
- Developing standards for accessing, querying, and retrieving data from data systems.
- Developing data technologies that augment or can be incorporated into data-grid technologies.

The Consortium will also work closely with other organizations to develop iRODS-based data middleware products and enhancements that promote the further adoption of iRODS-based technologies. The iRODS-based data middleware technologies will be promoted by the Consortium through several avenues, including:

- The development and publication of case studies in different scientific, federal, and industry domains.

- The development and posting of test suites for performance and functionality.
- Professional conference seminars and the publication of conference proceedings and posters.
- Publication of papers in journals and in magazines and books.
- The development and publication of best practices for data grid usage, administration, and extension development.
- The organization and implementation of annual conferences for administrators, developers, and Consortium members and non-members. The conferences will include tutorial sessions and presentations from Consortium members. The annual conference also will include status reports on Consortium plans and provide a forum for users and developers to discuss needs, successes, relevant technologies, and ongoing projects.

STANDARDIZING IRODS-BASED TECHNOLOGIES

The iRODS technology has evolved into a powerful system with multiple capabilities; however, there is a need to define a core iRODS data middleware—and its expected behavior—to support automated validation and ensure consistent behavior across releases and implementations. By defining a set of expected behaviors of an iRODS-based data middleware, we will be able to:

- Provide automated testing capabilities that certify compliance with expected behavior.
- Provide a stable definition of the core iRODS data middleware technology for inclusion in all releases of the implementation software, facilitating upgrades at sites with mission-critical installations.
- Provide a standardized definition of the interfaces between the core data middleware technology and other technologies for inclusion in all releases of the implementation software.
- Provide a robust, productized version that implements the core data middleware technology and interfaces, while supporting extensions that are independent of core functionality.

In its first year, the Consortium staff will work with Consortium members and the iRODS user community to define and document the core iRODS data-middleware technology, standard interfaces and protocols for interacting with the technology, and standardized testing procedures. The definition of such standards for iRODS technology will allow the Consortium to migrate established standards in a gradual manner, based on community needs and evolving technologies while retaining backwards compatibility.

In subsequent years, the Consortium will work with community groups to make recommendations and to adopt updates to the core definitions and standards for iRODS-based data middlewares. Finally, the Consortium staff will drive iRODS development and operate the testing facilities to meet the established standards.

As part of these efforts, the Consortium will investigate the development and publication of standards for data-middleware technologies that go beyond those developed for the iRODS implementations.

SUPPORTING ADOPTION AND USE THROUGH CONSULTATION AND TRAINING

Providing professional consultation, support, and training to users of iRODS data grids is a recognized need for the success of the users. The Consortium will work to ensure that users who

adopt iRODS have access to experts who can meet their needs. This goal will be accomplished through two approaches. First, the Consortium will organize, prioritize, and manage the use of Consortium staff for support, consultation, and training. Second, the Consortium will identify and provide a marketplace of third party vendors who can provide support, consultation, and training; for this effort, the Consortium will actively promote Consortium members to serve as third party vendors.

CONSORTIUM SUPPORT AND FUNDING

EXPENSES

The Consortium operating expenses fall in three broad categories: staffing, technical infrastructure, and operating expenses. Staffing will consist of the core team at RENCi, a satellite team at the Max Planck Society, and any additional personnel provided by member organizations. The core Consortium team will include:

- Senior Officers: Executive Director and Chief Technologist
- Core Development Team: a senior developer, junior developer, and software tester
- Support Team: an iRODS specialist to provide training, support, and administrative capabilities to Consortium members and support staff to provide technical writing, web development, and event planning.

Satellite teams of staff at member institutions will also be employed by the Consortium to provide additional capabilities for development, testing, and user support as well as to support specific activities. Such teams will either be paid for through Consortium central funds, grants and contracts to the Consortium, or with in-kind contributions by the member institutions. Eligibility for satellite teams will be based upon membership class and the ability to provide adequately skilled personal. Development contributions will be contingent on the approval of the Executive Committee, and a list of software deliverables will be required.

Technical Infrastructure covers costs for maintaining and running the development environment, a testing environment, and a web server. The testing environment includes hardware and software that are capable of rapidly deploying a wide range of distributed iRODS deployments using virtualization technology and automated testing software.

Operating expenses covers costs for travel, marketing, and event hosting. It is expected that these costs will increase yearly in anticipation of hosting multiple events in different regions as Consortium membership grows. Typical business expenses, e.g., personal computers, printing, mailing, office space, conference calls, etc, are covered in kind by RENCi as part of its commitment to the Consortium.