



4100 Regent St. M • Columbus, OH 43219 • 614-436-6488 • fax 614-436-6489

What is CERF?

CERF is a secure enterprise software product that catalyzes research and allows organizations to enjoy the benefits, efficiencies and long-term cost savings of paperless data storage and lab management. CERF is extremely flexible and includes a wide range of features and modules designed specifically to address modern scientific data management challenges. CERF consists of a CERF server, where your data is kept, and any number of CERF clients. The CERF client software is free. You may install it on as many computers as you like. The client software looks and behaves the same on both Mac and Windows machines. Scientists can log in from any computer with the CERF client installed and immediately start work. Their data is stored not on the local workstation, but on the central secure server. The server consists of the **CERF server application**, the secure **filesystem** (where the raw data is kept) and a **referential database** that ties the whole system together. Some of the many features and benefits of CERF include:

- Streamline record keeping by replacing paper lab notebooks with a flexible, secure and easy to use electronic lab notebook. Describe your research by entering text, creating tables and forms, dragging and dropping images, screenshots, documents, voice annotations, or anything you like from your desktop. Combine these elements with rich metadata that make your work easier to search, reuse and build upon.
- Organize, manage, version, and share documents. Old versions of documents are never deleted or overwritten and the full history of the document is easy to access.
- Digitally sign and witness notebooks with 21CFR11 compliance. Customize and manage signature workflows in ways that match your current practices and assist you with enforcement using automated reminders and configurable signature roles.
- Ensure proper role-based access to data that balances the needs of privacy and security with the benefits of collaboration and oversight. CERF allows granular control of access that can be configured to match the needs of any university, company, consortium, or loose association of laboratories.
- Create dynamic, easy to manage subpopulations of scientists with role-based access to specific subsets of data. It's easy to give everyone full access to everything, or control access very tightly with read only, annotation, edit or other privileges assigned as appropriate. Protect your IP, but simultaneously promote useful collaborations with scientists inside or outside your organization. We will work closely with you to show you how to organize your entire staff into logical workgroups with appropriate access roles.

- Create, manage, and access data and lab records across any platform (PC's, Macs, and browser equipped mobile devices. A prototype dedicated ipad / iphone App is also available). Collaborate with anyone, and send data to CERF from any device or any networked location. If you know you are going somewhere with no network access (for example on a flight to a conference) you can check out CERF resources, work on them offline, then check them back in when you next connect.
- Obviate the inefficient, unregulated and potentially insecure use of external thumb-drives, email, drop-box or other methods of sharing files between and communicating among colleagues or collaborators.
- Find and monitor or reuse data, documents, or specific versions of documents 24/7 whether in the lab, office or field.
- Reduce search times by associating rich metadata, annotations and captions with all your files and resources. Use full text search, metadata search, Boolean logic and simple structured queries to easily locate a single document, experiment or piece of data from amongst years of diverse research assets. CERF can automatically generate and associate metadata with key files as you add them to allow subsequent searches for almost any parameter or combination of parameters you can imagine.
- Give rich searchable meaning to data that is otherwise hard to search for. Add captions and searchable annotations to images, and graphic or textual overlays to verbose data that can tend to lose their significance or overwhelm a downstream audience not present during the original research. Avoid duplication and reinvention by providing better location and comprehension of data today and far into the future.
- Link resources together in logical ways and allow them to be used in multiple contexts, with or without automatic version update. See quickly how different experiments, literature and documents are related, and how your data has evolved over time.
- Enjoy piece of mind, knowing that all of your data is safe, secure and accessible into the indefinite future, regardless of trends in technology, or the CERF product itself. None of your data will ever mysteriously vanish from your lab or organization ever again. Data stays safe and ownership is clear, despite staff turnover, room changes, computer replacements and institutional reorganizations. We will work with you to recommend backup, export, automated offsite archive and security strategies that fit your needs.



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- Export some or all of your CERF data at any time. Alternatively, create locked or editable reports that summarize your research for fast communication with managers or PIs.
- Export and move data to other CERF servers, or subdivide your data into different domains as needed to match your organization's shifting hierarchy and changing CERF use. CERF gives you the balance you need between data permanence and data mobility.
- Use real-time collaboration features to find information and expertise in your lab, department or entire organization. Know instantly who has worked on related subjects or with specific protocols in the past.
- Train the system to match your needs by developing and sharing sophisticated templates and controlled vocabulary tags that help maintain consistency and organization-wide conventions.
- Turn ANYTHING into a template that can save everyone time. Templates can include intelligent place-holders for data that is not yet available, batches of processes or experiments, supporting literature, protocols, forms with line-item completed action signoff, or indeed anything you do frequently, no matter how specialized. We can show you how to turn almost any workflow into a template that will make your lab more efficient.
- Keep your lab in full compliance by using CERF to distribute and manage SOPs, protocols and other controlled documents. Monitor and enforce signing, expiration and proper usage by authorized individuals in any research project. This feature alone can save thousands of dollars by replacing third party systems or contractors.
- Use the Rescentris Automation Client to filter and route any type of data to CERF from anywhere in your organization. This might include data generated by scattered instruments, or files deposited in network drives, shared remote folders, or dropboxes.
- Send or cc emails and email attachments from any email capable device directly to your CERF server to become part of your official record. Emails can include incoming data files from collaborators, or even voice annotations and photographs sent from mobile devices.



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- Use our distributed data model to bring large existing collections of files into CERF without having to physically move them.
- Use your current workflows and favorite applications. CERF works with the software you use today to minimize change of user behavior and maximize adoption. We will train your users so that they will use the system properly, and benefit fully from it.
- Drag and drop simplicity. You can drag any file in any format from any source directly to CERF and immediately see a representation of your data inline. In most cases you can even interact with your data without having to open the external application that created it. You can even drag and drop entire nested directories to CERF file cabinets, and the internal directory structure will be faithfully recreated. For end users who do not want or need to know more, drag and drop of selected items is just about the only action they need to use CERF.
- Administrators and PIs have instant, granular control of all CERF server behaviors. View data and monitor server status, user logins, and data access from anywhere using the simple administrator's web interface.
- Flexible implementation models and simple infrastructure needs. We have deployed CERF in almost every conceivable IT environment. We will work with your IT staff to make sure that installation and deployment goes smoothly and makes your IT department and managers happy. CERF requires almost no IT maintenance from the customer and Rescentris provides all necessary help, documentation and support.
- Rescentris was founded by scientists. Our professional training and support is the best in the industry because we know your workflows and understand your challenges. We can assist you with every stage of the deployment and provide extensive training and clear documentation that will ensure rapid adoption by your end users. Responsive vendor support is a key element of any large-scale data management project and its importance should never be underestimated.
- Key CERF architecture features include the fact that CERF is a modular, extensible product based on open industry standards. Open standards make CERF easy to connect to other systems and ensure that the product is highly sustainable. CERF has a clear update path stretching far into the future, linked to industry trends. Modules and IT technologies that become outdated can be updated and modules incorporating new technologies can be easily added. Your CERF support package includes all software updates (typically two a year) and the updates involve no significant interruption of service.



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- The use of a database and separate filesystem to hold your raw data means that CERF does not slow down as data accumulates. The referential database in CERF contains only the information *about* your files. It rarely exceeds 5-10 GB in size and does not lock your files in a proprietary database from which you may not be able to extract them. CERF is “database agnostic”. By default we use MySQL as our database because it is free, but CERF works equally well with an MS SQL or Oracle “backend” if those technologies are required in your organization.
- Since all data in CERF stays in its original, native file format in the secure filesystem, your data is not tied to the fate Rescentris, or any particular database company or technology. Your valuable data can *always* be extracted in the future, regardless of your organization’s future data management strategy.
- New features and modules are being added by Rescentris all the time. If you utilize a workflow, software product or data type that is not currently tightly integrated with CERF, tell us about it. In many cases we can extend our product to meet your specific needs. Features currently under consideration for development in 2012 and beyond include a built-in drawing tool, the Structured Data, Inventory and Bibliographic Management Modules, Project Time and Resource Management Module, Flowjo (flow cytometry) integration, text / handwriting recognition functionality and smart pen integration. For information about projected release dates for these modules, talk to your salesperson.