

# ChemIT Documentation

Self-help documents and informational resources.

If you need further assistance, [submit a request to ChemIT](#), please.

## Chemistry IT Services

A selection of services in which Chemistry IT adds value. These are services ChemIT mediates or provides directly.

- [\\_ChemIT's purpose](#) — ChemIT staff members work hard to bring value to CCB research, teaching support, and administrative groups. Learn more about what drives us!
  - [By the numbers, ChemIT and PhysIT](#) — Count of people, systems, and networks that ChemIT and PhysIT supports. Our group supports approximately 375 people and about 900 computers and printers.
  - [Chemistry IT Services Overview](#) — What do you want to accomplish using computing technologies? We are here to help your research group achieve your goals.
    - [Chemistry IT Services By Support Level](#) — Chemistry IT: We help your group Identify, Build, and Fly better IT solutions. We are brokers and fixers (Cambridge's tag line)
  - [Contextual Visions and Missions](#) — Ensure linkages and coordination using a table summarizing visions, missions, strategic plans of pertinent organizational entities impacting Chemistry IT.
- [\\_Summary of Chemistry IT Services](#) — Find out the services Chemistry IT provides to the department and research groups, as being redefined during the fall 2016 semester.
  - [1\) Service Offerings for ALL Groups, grid form](#) — How can working more closely with Chemistry IT benefit you and your group?
  - [1\) Service Offerings for Full Support Groups](#) — How can working more closely with Chemistry IT benefit you and your group?
    - [Draft Opt-in example from Michael Lenetsky](#) — Oliver received draft Friday, 9/2/16.
  - [2\) Service Offerings for Partial Support Groups](#) — Learn about the Chemistry IT's services available to members of opt-out groups.
    - [Draft Opt-out example from Michael Lenetsky](#) — Oliver received draft Friday, 9/2/16.
  - [All groups must use certain Chemistry IT services](#) — Are there Chemistry IT services all groups "MUST" use, even if they are an Opt-out group? What are the long-term consequences of adding services to this list, or removing them from this list?
  - [Service dependencies on CIT and A&S IT](#) — We expend time and effort ensuring central services (CIT) and services co-managed by A&S IT end up helping us, and don't actually hurt us.
- [A&S's CISER account for researchers](#) — Here you can find useful information about CISER's services and Chemistry-specific how-to's.
  - [History of CISER service evaluation](#)
  - [Usage data, from CISER](#) — Mostly of value to just Oliver. Data link for Oliver: <<http://ciser.cornell.edu/beta/usage/subtrack.aspx>>
- [Accessing and using the Collum-Loring-Abruna-Widom \( CLAW \) cluster](#) — Specific directions on accessing and using the Collum-Loring-Abruna-Widom ( CLAW ) cluster
- [Accessing file shares for NMR and X-ray facilities](#) — Specific directions on accessing and administering NMR and Xray facility SFS file shares
  - [Accessing your NMR facility data](#) — Specific directions for research group members to access their group's NMR facility data from AV500, GCmate, and Exactive instruments (NMR's Windows OS-based instruments).
  - [Accessing your Xray facility data](#) — Specific directions for research groups to access their group's Xray data from Sam
  - [Managing file shares for NMR and X-ray facilities](#) — Add users via <https://manage.ad.cornell.edu/adadmin> <https://manage.ad.cornell.edu/adadmin>. Documentation for facility managers using fileshare services managed by ChemIT and provisioned by CIT (Active Directory and SFS file shares). Includes reminder notes for Chemistry IT staff.
    - [Creating new share folders for new groups, NMR and X-Ray](#) — Information on this page only of value to Chemistry IT staff.
- [Audio, Visual, video recording \(A/V\) support](#) — Primary support from Lars Washburn: Chemistry Audio/Visual Equipment <[chemav@cornell.edu](mailto:chemav@cornell.edu) <http://cornell.edu>>. No cell number available, but Lar's office number, which he receives in many locations within the building, is 5-2372.
- [CCB's groups](#) — ChemIT's understanding of CCB's groups. As used within ChemIT's instance of Remedy, for example. Also, ChemIT operational notes regarding specific groups.
  - [Dichtel](#) — Access guidelines for CRCF staff, per Oliver, following discussion with DavidB, 1/21/13
  - [Lee](#) — Steven Lee's Linux workstations and file server use. And purpose of Steven Lee's Silicon Graphics Imaging computer, running Unix.
- [CCB's Incoming Faculty procedures and reminders](#)
- [CCB Instruction's ChemGrades FMPPro DB support procedures](#) — A&S IT provisions and supports CCB's ChemGrades FMPPro DB. They also created and support ChemGrades web site showing read-only sub-data from DB, restricted by NetIDs.
  - [ODBC connection information](#) — Student Services staff must connect their FMPPro database file via ODBC to A&S IT's FMPPro server. Here are links to help ChemIT staff do that for them.
- [CCB Instruction Skype set-ups](#) — Set up Skype systems for grad student interviews each January.
- [CCB people lists](#) — Kevin A. pulls Grads within CCB, per Pat H.'s database. Sharon VanD. (HR) can pull info on all staff, post-docs, and other researchers, per Workday. (Grad data in Workday doesn't have CCB group info so not useful.) Chair's Office has info on all faculty, per JoyceB's (ad hoc?) info.
  - [People list documentation](#) — The "people" data from Kevin needs to be aggregated, and added to existing faculty info, for it to be useful.
- [CCB ST Olin research groups, by floor](#)
- [ChemDraw](#) — Links to how to license and tips. And pages containing the history of some known issues, especially on Macs.
  - [ChemDraw and iWork](#) — The (older) iWork software from Apple "allows ChemDraw extraction from older Keynote presentations", per Prof. Coates.
  - [ChemDraw and Office 2016 on Macs](#) — "Round trip" editing ChemDraw figures embedded within Office 2016 documents sometimes does not behave as expected as Office versions change. Here's how to fix some problems
    - [ChemDraw and Office 2016 on Macs debugging notes and history](#) — "Round trip" editing ChemDraw figures embedded within Office 2016 documents now behaves as expected. Had not for many, many years until ~Fall 2017, apparently.
  - [ChemDraw v16](#) — Copy-and-paste of our write-up for when v16 was the current version, before their licensing methods changed for v17, onwards.
  - [ChemDraw v17 and later](#) — PerkinElmer, the software vendor, changed the download and licensing system starting with ChemDraw v17 (about Spring 2018).
- [Chemistry's Departmental VPN](#) — Only need by those with a GuestID, not by those with a NetID. Chemistry uses Cornell's VPN service to provision our "departmental" VPN, @AS-CHM-DeptVPN (CAPS-sensitive!).

- [Chemistry's NetID procedures](#) — How to create, extend (sponsor), or renew the extensions of a NetID within CCB.
  - [Creating of new NetID](#) — Information on this page is useful if you need a NetID but will not receive a NetID automatically because you are NOT a new student, new faculty (exceptions made), or new staff member of the University.
  - [Sponsored NetIDs and related](#) — Compilation of information from Chemistry IT, including processes to get and extend sponsored NetIDs, and why.
    - [GuestID creation within Chemistry](#) — Instructions mostly of value to Chemistry IT staff, including our particular conventions used.
    - [How to sponsor a NetID, in Chemistry](#) — Documentation on Chemistry IT's role, using CIT's tools, to help Chemistry faculty provision or renew Sponsored NetIDs.
    - [Services retained by having a sponsored NetID, and services you still lose](#) — Unless other provisions are made, staff (including PostDocs, but not retirees) and non-graduating students lose access to many network-based services. This page explains the what, why, and how's.
    - [Sponsored NetIDs and GuestIDs](#) — All Chemistry Department Sponsored NetIDs are processed by Chemistry IT, as of August 2016. We also provision GuestIDs.
- [Chemistry Administrative/Teaching printers, their support and supplies](#) — For service or supplies for Administrative/Teaching printers, contact ChemIT. We encourage you using our ChemIT service request webform <http://it.chem.cornell.edu/request/>. This documentation page also includes procedures for ChemIT staff.
- [Chemistry Instructional and Conference Rooms](#) — See also <http://rooms.chem.cornell.edu/> <http://rooms.chem.cornell.edu/>
  - [CCB Conference rooms](#) — Some CCB rooms are available to anyone at the University. Other conference rooms are available only to CCB folks.
  - [Chemistry Instructional rooms](#) — Lars Washburn is the main person responsible for these rooms. ChemIT provides him support, in his role.
    - [Computers in Chemistry Instructional rooms](#) — List of software on the Macs and PCs in CCB's 4 instructional rooms: 200 (the big auditorium), 135, 219, and 335. (No computers in 119).
    - [iClickers in CCB instructional rooms](#) — CIT's ATC provides Cornell's iClicker service. Although the Baker Lab classrooms overlap, all iClicker stations are set to the "AA" frequency.
- [Chemistry IT's Management of IT Security](#) — Ways used by Chemistry IT to ensure compliance with IT Security measures
  - [Encryption](#) — To ensure data is not being compromised we strongly recommend, and in some cases require, drives to be encrypted
    - [Mac Encryption](#)
    - [Windows Encryption](#)
  - [Management Tools](#) — Tools used by Chemistry IT to help us ensure compliance with security policies at Cornell University.
    - [Active Directory & related information](#) — Information useful for IT and non-IT staff and others.
    - [Managed Desktop or Certified Desktop](#) — Configuration Manager for Windows, Casper for Macs, Puppet or Casper for Linux, etc.
    - [Printer management](#) — We don't have a good printer management tool, system, or procedure. Might we not benefit from one?
  - [Screen Lock](#) — Screen lock allows a computer when idle for a certain amount of time to lock itself, requiring re-entering the user's credentials. This prevents the situation of a user leaving the computer accessible to all, ensuring data is not compromised. Cornell policy recommends every 15 minutes or less of idle time.
  - [Spirion](#) — (Formerly Identity Finder) Everyone dealing with university data is responsible for its proper handling, especially if it is sensitive data. Spirion is one tool which can assist you in your obligation to safe-guard sensitive data. This page contains information on using Spirion.
  - [Updating](#) — OS and Software engineers will provide security updates along with updates containing new features. To stay on top of threats to security, it is strongly encouraged, and usually required, for systems from our office to be centrally managed. For other machines, it is recommended to regularly check for updates.
    - [Mac Updates](#) — Common procedures used by ChemIT to update computer running current Mac OSX
    - [Windows Updates](#) — Remember to check and update ALL APPS/PROGRAMS unless specified for good reason, even if not listed. This page also contains specifics related to updating some of the most common applications.
- [Chemistry IT and Arts & Sciences IT](#) — Chemistry depends on many A&S IT services, such as FileMaker Pro server hosting and configuration of central IT technologies (Active Directory, Casper, Configuration Manager, Firewalls, etc.).
- [Chemistry Lyris Mailing Lists](#)
- [ChemIT's billing to faculty](#) — Information about ChemIT's monthly invoicing to faculty.
  - [Communications to CCB stakeholders](#)
    - [Jan 2015 billing update](#) — Subject: Chemistry IT updating billing information [DRAFT]
    - [Memo from CCB Technology Cmt \(Will Dichtel\)](#) — Coming, as of 9/11/14 conversation with Oliver (Chemistry lunch).
    - [Memo from ChemIT \(Oliver\)](#) — Create a Remedy INC to myself to collect all responses.
- [ChemIT inventory, including procedures](#) — Standards of practice regarding our inventory process. And links to our various inventories.
  - [Cabinets in S.T. Olin's 2nd floor hallway](#) — Chemistry IT has storage cabinets on the 2nd floor in S.T. Olin, near the elevators as you head towards Baker Lab.
  - [Chemistry's stock-of-parts stockroom inventory \(both in Baker 248 and 250\)](#) — Table listing cables and other items, and their quantities, moved into 248 (serving as a storage "stock room", from Baker 250).
  - [Inventory procedures for non-deployed machines](#) — Instructions for updating inventory records of scrapped, stock, and missing machines
  - [What is the Dell oldest computer we keep for reuse, and why?](#) — WinXP and other non-current OSes do not run on the newest hardware. We thus want to remind ourselves of which Dell models to keep, and which ones we feel safe to let go.
- [ChemIT monthly and annual tasks](#) — ChemIT's "Monitoring schedule". By month, reminders regarding ChemIT actions not to forget.
  - [Accomplishments tracking](#) — Highlighting group and individual staff successes.
- [ChemIT newsletter](#) — Express services CCB folks would benefit from knowing about, and successes relevant to encouraging use of services.
  - [Default text for newsletters](#) — Use stock text on this page to speed up crafting our newsletters. Page also includes some important reminders.
  - [DRAFT, October 2015](#)
  - [Topic ideas for next newsletter](#) — For our next newsletter, capture on this page specific news items to consider, in addition to those which have been posted directly on our blog since our last newsletter.
- [ChemIT Professional Development resources](#)
  - [ChemIT Linux-related resources](#)
    - [Active Directory integration with Linux](#) — Tips and tools, including PowerBroker (PBIS).
    - [ChemIT Linux doc location](#) — Historically our Linux docs have been created in MS Word. This page helps authorized staff find them. :-)
    - [Installing Linux](#) — Oliver's notes on Linux install explorations.
    - [Learning Linux](#) — Including Linux server administration. And certifications.
    - [Linux magazines, subscriptions and the like](#)

- [Linux software tools](#)
  - [CompTIA certification, training, and related](#)
  - [Cornell's professional development offerings](#) — Info as of November 2016. Includes certificated training tracks (groups of classes)
  - [Other](#) — PMI's PMP and ITIL training ideas.
- [CIT EZ-Backup subscription process and inventory](#) — Process to order EZ-Backup subscriptions by ChemIT, for efficient and consistent requests and order trouble-shooting. Includes template answers. Links to inventory of subscriptions.
  - [Chemistry staff backups status chart](#) — List of Chemistry and Chemical Biology (CCB) staff, and whether or not they have backups of their computers.
  - [CIT's EZ-Backup info for Chem/Physics](#) — Info we would appreciate getting from CIT regarding ChemIT's management of Chemistry and Physics EZ-Backup accounts.
- [CIT static web site service](#) — Please see how-to page under our web services section.
- [Computer Physical Security, Locks](#) — Lab Services laptops and classroom computers have in the past used locks to thwart physical theft. A problem arises when security slots change or are removed by computer manufactures.
- [Connecting computers to Chemistry Group printers](#) — Instructions on how to install printers onto personal or Cornell computer devices.
  - [ChromeOS can't print to group printers](#) — Options outlined on this page since ChromeOS depends on Google Cloud Print and that service is not supported by Chemistry research group printers.
  - [Command line sudo techniques for changing printing defaults](#) — Sometimes printer drivers don't give you important control of default settings. Such as for default duplex. On a Mac, here is a hard way to get those controls.
  - [Printer set-up tips, including driver info](#) — Chemistry IT's experience with various brands of printers and driver software may save you time and aggravation.
  - [Technology to make printing easier](#) — A placeholder page with ideas on ways printing could be made easier. Often would require additional investments so may not be worth exploring further or making any changes.
- [Dell warranty service for Cornell equipment](#) — [https://www.it.cornell.edu/services/hardware\\_repair/howto.cfm](https://www.it.cornell.edu/services/hardware_repair/howto.cfm) [https://www.it.cornell.edu/services/hardware\\_repair/howto.cfm](https://www.it.cornell.edu/services/hardware_repair/howto.cfm)
- [Directory info at Cornell](#) — Why would a student's record not show up in the Cornell directory?
- [Exit topics for Chemistry people leaving Cornell](#) — HR refers to Chemistry IT Chemistry Department people who are leaving. To help them and their groups, we provide a consultation, using this page as a guide.
- [FileMakerPro services managed by Chemistry IT](#) — FileMakerPro licenses and server, as managed by Chemistry IT.
  - [FileMakerPro Licenses managed by Chemistry IT](#) — Chemistry IT has annually paid for 32 FileMaker Pro seats, plus other related licenses.
  - [FileMakerPro server run by Chemistry IT](#) — Fall 2018, Chemistry IT stood up a FileMakerPro server because the A&S IT's server had run out of DB slot
- [Finding serial numbers on Cornell computers](#) — Serial numbers are found in different places, depending on the manufacturer. Tips for finding them are on this page.
- [HDD Wiping Guide](#) — This guide contains the basics on how to wipe a hard drive, using the multiple tools available
- [Hosting A&S NAS copy](#) — A&S provides central file storage for admin and teaching purposes. To improve robustness, ChemIT is pleased to host a copy in our server room.
- [How to update your NetID-based password on an off-campus computer's account](#) — Your off-campus Windows computer's password won't update when you changed your NetID password. You can update it by bringing it to campus. Or use VPN and these instructions.
- [Imaging hard drives](#) — Make a snapshot (image) of a hard drive into a file.
- [Instrument computer support for Research groups in Chemistry](#) — Instruments used in Chemistry often have computers attached to them. Often those computers require special support considerations.
- [IT Support special circumstances](#) — ChemIT provisions services to a few staff and faculty who actually get their main IT support elsewhere. This page helps clarify the necessary coordination to ensure optimal delivery of services.
- [Linux Repositories](#) — Information concerning Chemistry IT's own repositories and others provided on campus used by Chemistry IT
  - [Chemistry IT EPEL and ELRepo repositories](#) — This page will contain all the information pertaining to the configuration/use of the EPEL and ELRepo repositories managed by ChemIT
  - [Other Linux Repositories on campus used by Chemistry IT](#)
  - [Standard CentOS Base Repo file to use ChemIT and Campus repo servers](#)
- [Networks](#) — Info and links regarding our network, including options to put machines on 10-space.
  - [Change IP address on CIT subnet via CIT's DNSDB service.](#) — Info mostly for ChemIT staff, due to security restrictions on the tools used. Procedure is useful in situations where an instrument computer in 10-space must temporarily be given full internet access (for vendor access, say).
  - [Chemistry's Computer Exception Form and related networks](#) — Chemistry's Computer Exception Form is used to request a jack activated on CIT's AccessNet. If that won't meet researcher's needs, Chemistry's RedNet is available.
    - [Policy 5.10 Progress Overview](#)
    - [RedNet and AccessNet registry summary](#) — Jacks and IPs on Chemistry's and Physics's RedNet networks, along with relevant context.
  - [Cornell's private network \(10-space\)](#) — When a service moves from campus to the cloud, the service becomes unavailable to devices on 10-space UNLESS the servers of the service in the cloud is added to CU's transproxy.
    - [Chemistry IT's use of 10-space](#) — Characterizing the use of 10-space within Chemistry and Physics.
  - [How to find your computer's MAC address \(and IP address\)](#) — The Media Access Control card interfaces your computer to the network and has a unique number. Learn how to get that number, here.
  - [Network tools](#) — Of value only to NetAdmins who have proper authorization. Mostly linking to CIT tools. Original info from Michael Hint's "Magic CIT info websites" (9/25/12) email.
- [Purchasing, specing](#) — ChemIT can help you invest in the right technology. And help you find the best value.
  - [High-end computers](#) — Snapshot of costs for higher-end computers, including compute cluster systems (high performance, HPC). Purchasing, buying. Contact ChemIT to discuss your needs.
  - [Personal A/V](#) — Chemistry IT's info on video cameras, speakers, headphones, etc.
    - [Headphones and speakers](#) — CCB staff who need headphones to do their work can request a pair from ChemIT. Others are welcome to consult with us regarding options.
    - [Webcam options](#) — Chemistry IT has purchased webcams for research groups and for our group. We specify the models and prices on this page.
  - [Printer suggestions, including with scanners](#) — Info on some printers and MFP's in Chemistry
  - [Restricted funds in CCB](#) — How can you tell if an account is not restricted, and thus can be used for purchases not eligible to restricted fund accounts such as printer toner? Summary: 82xx through 86xx are restricted.
    - [Oliver's extracts from OMB circular](#) — Extracts with an eye on computers and computer-related services.
- [Recommended procedures when leaving a computer](#) — When do you shut down your computer, instead of log-off or lock it?
- [Remedy](#) — Documentation mostly of value to Chemistry IT and Physics IT staff.

- [Reported Source categories, Remedy](#) — Conventions used by ChemIT for Remedy "Reported Source" categories.
  - [Service categories in Remedy and desired ones](#) — Conventions used by ChemIT for Remedy "Service" categories. And our page to record wished-for categories.
- [Replacement budgeting for your Group](#) — ChemIT can assist with replacement budgeting. Replace before failure; manage potential failure risk; don't waste money.
- [Requesting General Assistance](#) — For general purchase and technical requests, we have listed important information to include in your request to help us process the case in the most efficient manner.
  - [Researchers: Services for your personal devices used for research](#) — Graduate students and others are often expected to have personal devices to facilitate their group's research, such as a laptop. ChemIT can help, as time permits. Help yourself by backing up your data. And help us help you by understanding what we can do for you. Thank you!
- [Requesting Toner Replacement](#) — To help you request toner replacement, we have created a guide with information you should include in your request, as well as estimated costs.
- [Resource 25 \(r25\) room scheduling web application and ATC's technology DB](#) — Chemistry IT staff, among others in the Chemistry and Physics departments, have access to see the university-wide room schedules using this application. A few also can edit the schedules, using RDP. Includes link to classroom technology database.
- [Self-support of a Cornell-owned machine](#) — Self-supporting a Cornell computer means taking on additional tasks and responsibilities compared with systems manage by Chemistry IT. These pages can help save you time and trouble, including access to set-up services by Chemistry IT staff.
  - [A\) Set-up options for a self-supported Cornell-owned computer](#) — For Cornell computers which are self-supported, you may want some of Chemistry IT's optional assistance. Pick and choose from the deli-order style offerings on this page!
  - [B\) Resources for those who self-support a Cornell-owned computer](#) — This page includes a resources table compiled by Chemistry IT
- [Servers, HPC systems, NMR lab, CAC, and AWS](#) — Public-facing inventory of servers and the like in CCB, most of which are managed by ChemIT.
  - [1\) CCB High Performance Computers \(HPC\)](#) — Inventory counts and other details related to CCB's HPC clusters.
    - [aaClusters moving to CAC](#) — Documentation page placeholder for collecting information related to having current Chemistry IT-managed clusters (in 248 Baker Lab) moved to CAC.
    - [Abruna Cluster](#)
    - [ChemIT Cluster](#)
    - [Collum Cluster](#) — 8 compute nodes, 1 head node. Details on this page.
    - [Collum-Loring-Abruna-Widom "CLAW" Cluster](#) — Cluster built on Widom's headnode. 1 headnode and xx compute nodes.
    - [Freed Acert Eldor HPC](#) — Non-cluster HPC
    - [Hoffmann Cluster](#)
    - [Lancaster Crane Cluster](#)
    - [Petersen Independent Nodes](#)
    - [Scheraga Cluster](#) — Upgrading summer 2014.
    - [zClarifying cluster responsibilities and ownership](#) — Effective use of a cluster for research is enhanced with clarity of roles and responsibilities, along with shared conventions and procedures.
    - [zCluster backups and related considerations](#) — Although there may be unique considerations regarding backups for high performance computer systems, including cluster, see first Backups and file storage options for research groups.
    - [zCluster Computational Software](#) — Computational software installed on CCB clusters, and who supports and manages which software.
    - [zCluster counts details and history](#) — Inventory counts of CCB's HPC computers, clusters only.
    - [zConnecting to Clusters](#)
    - [zMaintenance and emergency procedures](#) — Clusters and other high performance servers require maintenance. Documented procedures reduce surprises for both enabling scheduled maintenance and emergency work.
    - [zStorage for HPCs and other systems](#) — Sometimes a local hard drive(s) is all you need. But often the right solution is something else. Look here for info. related to alternatives, some of which are successfully used in production and very cost-effective.
    - [zUseful Linux HPC commands](#)
  - [2\) CCB non-HPC servers in 248 Baker Lab and AWS](#) — Inventory and summary notes regarding non-cluster systems in 248 and AWS, including computational stand-alone systems, web servers, and file servers.
    - [Chemistry IT's AWS servers](#) — Test migration: License server, Stockroom Apps, etc.
  - [3\) CCB NMR instrumentation systems](#) — NMR's instrument machines, both Linux and Windows.
  - [Linux software](#)
    - [Oliver's demo of TOC](#)
  - [Power outage records, procedures, and to-do's](#) — Summer 2013 and winter 2014, there were an inordinate number of power outages in Baker Lab, and other Chem buildings!
    - [ChemIT's record of recent power outages](#)
    - [UPS inventory and status](#) — A snapshot of the UPS's used to support servers, switches, and other equipment under ChemIT's management. Mostly within ChemIT's Baker 248 server room.
  - [Server costs if to use non-ChemIT alternatives](#)
- [Sharing files and related topics](#) — Many services allow sharing of files. Look here for guidance on which to use, and why.
  - [Box.com info](#) — Box.com is a CIT-supported service. But to get more space, they expect you to go through your IT support provider. Which is ChemIT for CCB folks, of course.
    - [Box.com limitations and recommendations](#) — Some select Limitations and Recommendations from the FAQ, for v3. How much pertains to the current version (v4)?
  - [File share services and related tools](#) — these relate to the more traditional file shares allowing for a regular mounting of the share to the desktop, via CIFS and the like. Includes Linux NFS-based shares, too. Being file shares, all at Cornell. Includes permission inventory tools, too.
    - [A&S file share](#) — This is a service for A&S's administrative departments. (This service is not available to research groups.)
    - [Chemistry file sharing instances, including SFS](#) — A list of CIT SFS (and other file share) instances, along with ChemIT's how-to's and conventions. Also, notes on any pending migrations or changes, including ChemIT test instances.
    - [Directory structure and permissions within a group file share](#) — The conventions used within Chemistry for group file shares. Also includes how-to's for ChemIT staff.
    - [Drive letter conventions](#) — Windows auto-mounts.
    - [File permission inventory tools](#) — Windows NTFS folder and file permissions can be complicated. There are tools available to better view those permissions than doing so by hand, one folder and file at a time.
    - [File sharing mapping](#) — For all CCB staff and others, Windows and Mac file sharing. Includes using Cornell's DFS service.
    - [Instructions for using group's file share](#) — Note 1: Off-campus use requires the use of Cornell's VPN (Virtual Private Network services).



- ## IaaS: Cloud computing, for research

- [Ramping up and down cloud services to save money](#) — For some chemists (mostly theoretical chemists), they benefit from systems which are up 24x7. For researcher who don't have such persistent needs, they may be able to save enormous amounts using the cloud by paying only for the resources you actually use.
- [Restricted: CU Cloud case-studies](#) — Three Cornell-based research-specific cloud case studies, from July 2014 through April 2016.
- [Web hub for cloud computing research at Cornell](#) — More info about <http://cloudcomputing.cornell.edu> <http://cloudcomputing.cornell.edu>.

- Apple contacts
- Apple Cornell warranty options

- [Backups for computers](#) — Contact ChemIT for a consultation to characterize your backup needs and receive our recommendations to cost-effectively meet those needs.
  - [Backups and file storage options for research groups](#) — ChemIT sharing their recommendations and best-practices for backups and group file storage. May be of particular value to research groups.
  - [Personal backups](#) — Protect your data, even if not on institutional systems or services.
    - [Backup cloud services like Google and Dropbox.com](#) — Hacked accounts make cloud services vulnerable. Back them up if they contain sufficient value to you. Also, encryption options
    - [Backup ideas for personal computers](#) — Sharing backup info ChemIT staff have come across which may help others backing up their personal computers.
- [CCB photocopies](#) — Purchased and maintained by Eastern, through Vonnice.
- [Changing Email Contact Information](#) — ChemIT (formerly known as CRCF) has a new email address, ChemIT@cornell.edu.
- [Connecting to eduroam \(RedRover\)](#) — Using RedRover / RedRover-Secure / Eduroam
- [Cornell account review, OBIIE Dashboard](#) — Oliver uses this link to review transactions on his group's account (A583143).
- [Cornell Two-Step Login \(Duo two factor authentication\)](#) — April 20th 2017, five sections of Workday will require employees to use Cornell's Two-Step Login. Enable this service before you need it!
- [Creating or mounting an ISO \(virtual CD-ROM or DVD\)](#) — Software distributed on CD or DVD sometimes requires it to be on the media to install or otherwise work. You can distribute the content virtually as an \*.iso file, and then mount that file so the OS thinks it's an actual CD or DVD.
- [CU course develops software for production solutions](#) — Course offers teams to develop real software applications for clients (you?!) who intend to place them into production. Not prototypes or academic research.
- [CU Search](#)
- [Electronic Lab Notebooks](#)
  - [Digital Lab Notebooks, pilot program](#) — CIT's and the Library's desire to pilot Digital Lab Notebooks for courses (and research labs).
  - [Dotmatics Studies Notebook "One-Click" \(ELN\) in Lin Group and Cornell Library, 3 year](#) — Lin Group was using Dotmatics's Studies Notebook <<http://www.dotmatics.com/products/studies-notebook/> <http://www.dotmatics.com/products/studies-notebook/>>. 3/15/2018: Vendor stopping support so group looking for alternatives again.
  - [OneNote as a platform for ELN](#) — Other places have succeeded in using Microsoft's OneNote to meet this need. The Lin group is exploring this option, as of 3/15/2018.
- [Email and Calendaring](#) — Includes information related to Cornell-specific email and calendar tools. Tips, issues, etc.
  - [Calendaring](#) — Includes information related to Cornell-specific calendar tools. Tips, issues, etc.
    - [Calendar](#) — Links to resources to learn how to more effectively use calendars, including Cornell's Exchange calendar service.
    - [Calendar conventions use by Chemistry IT staff](#) — Noting time off in effective ways.
    - [Calendar harmony tips](#) — Outlook Calendar sometimes behaves in unwelcome, surprising ways. Learn to recognize them, and learn the work-arounds possible for for many aggravations. It's not you; it's the software.
  - [Email](#) — Includes information related to Cornell-specific email and calendar tools. Tips, issues, etc.
    - [Cornell's email forwarding service, LDAP](#) — Look up where email goes when you send an email to someone's Cornell email address. Change or add where you forward your Cornell-based email. Mail routing.
    - [CU's Gmail \(CMail\) service, direct send](#) — Send an email directly to Cmail, bypassing O365 (and likely also Cornell's main email infrastructure): <NetID@g.cornell.edu>
    - [Email Message Size Limits](#) — CU's Exchange (Office 365, Outlook) system limits the size of email messages, including their attachments, to 25 MB. CU's e-lists limit full message size to 1MB.
    - [Improving Cornell's central SPAM filter](#) — Cornell's central email delivery service uses filters from Sophos to block or rate spam. The filters get better with real-world samples submitted by us. Here's a link to the page explaining how to do so.
    - [On Macs, Microsoft Outlook is often better than Apple Mail](#) — ChemIT notes on specific situations where we have noticed Outlook outperforming Mail.
    - [Outlook message's folder](#) — In Windows, Alt-Enter to pull up legacy info box showing message's folder (location).
  - [Outlook info related to both email and calendar functions](#) — Please also see info on Outlook within the Email and Calendar sections.
    - [Outlook message limits per folder and calendar entries limits](#) — Performance degrades in almost all mail clients when there are many, many emails in one folder. Here are MS Outlook's limitations.
    - [Storage limits with Outlook](#) — 50GB total storage.
  - [Shared mailboxes and calendars, mostly for staff](#) — Exchange Group Accounts (EGA's) can help two or more people share management of incoming mail, and provide a non-person, functional email address. And for shared calendared resources.
    - [Sharing Room Calendars](#) — Chemistry IT assists the Chemistry department in properly configuring and authorizing access to room calendars. This page contains relevant notes.
    - [Viewing different mailboxes within Outlook, Windows](#) — Staff and others using EGAs will want ready access to those email mailboxes within their Outlook client to both read messages and "send as" those mailbox EGA address. There are two ways to do that.
- [FileMakerPro programming resources](#) — Leads on FileMakerPro programmers.
- [Firefox ESR, Windows](#) — In Windows, why not transition to 64-bit Firefox ESR "now", especially for new installs? For example, in Cornell's CM Windows 10 OSDs.
- [Fonts, Apple](#) — Know what fonts you use which are not default fonts of your OS. You'll need to re-install them when you get a new computer or get a new OS!
- [Google services, including Chromebooks](#) — Many CCB folks use Google products. Here's some of what ChemIT knows of some of those services, as an FYI.
- [Hard disk recovery options](#) — Many places offer free analysis, and you only pay after they characterize what they can recover.
- [Java software challenges](#) — Java software can make web sites more usable or appealing. Unfortunately having Java installed is also an increased security risk. Challenges and tactics discussed here.
- [LDAP look-up tips and tricks](#) — IT Support Providers can use Quest (CU's Active Directory tool) to query CU's LDAP for email forwarding and date/ time someone's password was change (by them, or scrambled by IT Security).
  - [Directory look-up tips from CIT](#) — Other useful attributes: cornelleduactivateddtd and cornelledumailroutingtime
- [Lyris \(Cornell email list service software\)](#)
- [Mac utilities to check file sizes](#) — Tools to help you understand which files are taking up the most space on your hard disk. Useful to inform back-up and syncing strategies and evaluating options.
- [Manager Tools resources, including podcasts](#) — Good resources for any employee, manager or not.
- [MS Office licensing reset to KVM](#) — Sometime Cornell's licensing for MS Office doesn't "take". Here are ways to fix that problem.
- [MS Word training resources](#)
- [NMR Scheduler, manage by NMR](#) — Contact NMR at <nmr@cornell.edu mailto:nmr@cornell.edu> for any problems with the NMR Scheduler.
  - [DRAFT- Clarifying that NMR staff manage and support the NMR Scheduler server](#) — Prevent delays be directing support requests to NMR, not Chemistry IT or CIT. Thank you!

- [NMR Scheduler's background story, as Chemistry IT understands it.](#) — From the perspective of Chemistry IT, here is NMR Scheduler's background story, along with contextual and technical information.
- [Passwords](#) — Strategies related to managing complex password, and other password-related issues.
  - [Password managers](#) — Password managers help you manage your logins. They can store all your user names and passwords, along with login information and other notes. You only need to remember the single master password, instead of the many logins that you use.
- [PCard receipt forwarding to Vonnie](#) — Cornell changed the process for PCard receipts Jan. 2016. Automatically have emails forwarded. Instructions below.
- [Personal computer purchase information](#) — Find likely cheaper ways to buy a Mac, Dell, or other computer than just walking into an Apple Store, BestBuy, etc.
- [Personal computer support: Your options](#) — Please share with us what support options work (or didn't work) for you so we can tell others. Thank you!
- [Phishing emails at Cornell](#) — Do you need to report email phishing? Find out if Cornell already knows about it, and thus no need to report it.
- [Phone-related resources and tips](#) — Phones should be simple, but features can make them complicated. Use these pages to access the basics, and help to identify features you would value.
  - [AUDIX tips and resources](#) — Many of us use this messaging service (voice mail) instead of an answering machine.
  - [Caller ID to off-campus phones](#) — Campus phones default to not providing CallerID info for off-campus calls. This can lead to phone calls not being picked up because they are not trusted.
  - [CU's My Extension Everywhere service](#) — When My Extension Everywhere is activated, calls to your campus phone number will ring simultaneously on any designated 10 digit phone number. <<http://www.it.cornell.edu/services/myext/>> <http://www.it.cornell.edu/services/myext/>>. Formerly named Extension to Cellular (EC500).
  - [Example email to faculty on phone options](#) — Email excerpt from us to a faculty member interested in call-forwarding-like services, from his Cornell phone number.
  - [Harold Scheraga's office phone forwarding](#) — Documentation of Harold Scheraga's office phone forwarding set-up.
  - [VoIP phone tips and resources](#) — Most office phones in Baker Lab and ST Olin are Voice-over-IP (VoIP) phones. These use a special network and will not work over normal phone lines.
    - [Returning a broken VoIP phone to CIT](#) — Email template for returning phone to "NCS".
- [Private or local cloud and sync ideas](#)
- [Protein Lab locks](#) — The Chemistry Department decommissioned the old, programmable locks to the Protein Lab May 2018. Retained specialized hardware until locks actually leave the premises, "just in case".
- [Remove Windows file share security warning](#) — Untrusted warning messages when using trusted file shares are annoying. Here's how to get rid of the warnings.
- [Security breaches and related data](#) — Investing in IT security can be hard to prioritize unless you know what you are helping to avoid.
- [Send Gmail as if from your Cornell email account](#) — Set up your Gmail so that you can send a message from that account and have the Reply-to be your actual Cornell email address.
- [Sharing documents and text](#)
- [SSH tips and tricks](#) — Learn tips and tricks related to SSH on this page. Including how to prevent network drops during idle SSH connections.
  - [Directory mounting](#) — Example: You want to mount a directory on your CCB cluster. You can do so using existing ssh access, via sshfs.
    - [Real-world sshfs mount example, from CCB researcher](#)
  - [Prevent idle SSH network drops](#) — Firewalls will often drop idle ssh connections. You (on your client) and/or your server administrator (on your server), can take steps to ensure connections stay alive and thus are not dropped.
- [Storage thoughts](#)
- [Survey tools](#)
- [TeamViewer](#) — People have reported successfully using TeamViewer to access their non-Cornell (personally purchased) computer from off-campus when their computer was on eduroam (Cornell wireless service).
- [Time cards](#) — <https://hr.cornell.edu/workday> <https://hr.cornell.edu/workday>
- [URL used by Facilities](#) — <https://biotech.alc.emcs.cornell.edu/> <https://biotech.alc.emcs.cornell.edu/>
- [Using CU's VPN](#) — Using Cornell's Cisco AnyConnect Virtual Private Network (VPN) software. Useful to connect, from RedRover, to group servers and NMR's server. Bonus: Also enables you to print to your group's printers from off campus!
  - [VPN options when CU's VPN is not the right tool](#) — Folks visiting China (for example) can benefit from using a VPN service to allow otherwise prohibited access to Internet resources. Cornell VPN is not the right tool for this,, but there are many other commercial VPN services available to meet this need.
  - [VPN use in specific countries, including China](#)
- [Vertere chemical tracking system](#) — Vertere is the tracking system necessary for safety, paid for by EH&S and supported by Vertere.
- [Video and Phone Conferencing tools and tips](#)
  - [Phone conferencing options](#) — Free and fee-based options for phone conferencing.
  - [Video conferencing tools and tips](#) — CU is licensed for the Enterprise version of Zoom. Easy to use and extra features. Other options can also be listed, as FYI.
    - [EMC2 Tandberg to Zoom](#) — Instructions to connect the Tandberg C20 video conferencing system in EMC2 to Cornell Zoom.
- [Video on demand services, campus-based](#) — Easy-to-use Kaltura-based services, often better than using YouTube for Cornell and course-related videos.
- [Video recording of classes or screens](#)
- [Wake-on-LAN](#) — Remotely start a computer using its (properly configured) network card, if routing permits. Easiest within a LAN, at Cornell.
- [Workday URL bypassing HR page](#) — [https://hr.cornell.edu/workday\\_redirects/login\\_workday.html](https://hr.cornell.edu/workday_redirects/login_workday.html) [https://hr.cornell.edu/workday\\_redirects/login\\_workday.html](https://hr.cornell.edu/workday_redirects/login_workday.html)

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If you need further assistance, [submit a request to ChemIT](#), please.