GT/OIT/CoC Computing Primer

COC / TSO STAFF: The CoC Technology Services Organization (TSO) provides computing, networking and physical infrastructure, as well as technical and building support for all of the College's programs: Research, Instruction and Administration. Here are the primary points of contact along with respective areas of responsibility.

Name	Email	Room	Phone	Position	Area of Responsibility
Uwanna Smith	uwanna@cc	CCB 242	894-9678	Director	• Enterprise services: web & help desk • Facilities building support
Randy Carpenter	randy@cc	CCB 243	894-9046	Director	• Research computing: research lab technology, high performance computing, grad student desktops • Instructional computing
Tonya Gordon	dunson@cc	CCB 240	385-0364	Senior IT Project Manager	• Instructional Resources & Tech Fee • Licensing & Legal Matters • Asset Management
David Mercer	dmercer@cc	CCB 233	385-2518	IT Support Professional	• Instructional Program Support: instructional labs, desktops, servers, applications
Brian Crowell	bcrowell@cc	CCB 148	894-7065	Manager, Helpdesk	• CoC, KACB & TSRB Help Desk • Faculty & Staff desktops

(See http://support.cc.gatech.edu/inside-tso/staff for a complete listing of TSO Staff.)

COMPUTING SERVICE PROVIDERS @ GT: There are 2 computing service providers available to you at GT.

1. **Office of Information Technology (OIT):** provides technology services for all of GT.
2. **Technology Services Organization (TSO):** provides local technology services for CoC.

Service Provider	Locations	Type of Service	Help References
OIT	GT Library (ground floor west)	Centralized GT computing & networking support	**Web**: http://www.oit.gatech.edu/ **FAQ**: http://faq.oit.gatech.edu/ **E-mail**: **support@oit.gatech.edu** **Phone**: 404-894-7173 **Hours**: 8AM-6PM, M-F
TSO	Help Desk located in: • CCB 148 • KACB 3123 • TSRB 347	CoC specific computing & networking support	**Web**: http://www.support.cc.gatech.edu **FAQ**: http://support.cc.gatech.edu/support-tools **E-mail**: **helpdesk@cc.gatech.edu** **Phone**: 404-894-7065 **Hours**: 8AM-4PM, M-F **AIM**: tsohlpdsk

Please subscribe to IMPORTANT System Notice e-mail lists:

- **Subscribe here:** https://lists.gatech.edu/sympa/info/oit-availability
- **Subscribe here:** https://lists.gatech.edu/sympa/info/cc-tso-availability

USEFUL INFO CAN BE FOUND ON THE TSO WEBSITE: http://support.cc.gatech.edu/

- **Download this document**
- **Learn about TSO Services**
- **Learn about CoC Computing Facilities**
- **Get notified of maintenance and outages**
- **Frequently Asked Questions (FAQs)**
- **How to Do things (Howtos)**
- **Request resources using online forms**

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POLICIES AND PROCEDURES: Read the GT Computing & Networking Security Policy and Procedures.

- We know it's boring, but these policies **WILL** affect your computing life at GT and the College of Computing.
- COMPLETE COC POLICIES CAN BE FOUND AT: http://support.cc.gatech.edu/support-tools/pnp
- *The use of GT computers and networks constitutes agreement to these policies.*

Document	What Is This All About?	Online Reference
GT Computer & Network Usage and Security Policy (**CNUSP**)	Outlines employee and student ethical and professional behavior requirements for the protection of the GT information technology resources.	http://www.oit.gatech.edu/sites/default/files/CNUSP_new.pdf
GT Computer & Network Usage and Security Procedures	Provides specific requirements to protect GT information technology resources and data while appropriately governing employees' and students' behavior.	http://www.oit.gatech.edu/sites/default/files/CNS_Procedures_new.pdf
CoC User Account and Access Policy	Rules for CoC user account eligibility, expiration, behavior	http://support.cc.gatech.edu/support-tools/pnp/coc-user-account-policy

USER ACCOUNTS: You have both a GT user account and a CoC user account.

Account Type	Account Format	Apply	Activate	Passwords, Remote Access, Disk Quota, Web Pages
GT	*flastXXX* (f = first initial, last = last name, XXX = 2 or 3 digit #).	No need to apply. Your account is automatically created.	Go in person to the Resource Center, Library West (ground floor). Bring a picture ID.	• Password expires every 90 days. • Reset with http://passport.gatech.edu/ • Remote access only w/SSH, SSL, IMAPS, POPS • Personal web page in ~/public_html w/live updates http://www.prism.gatech.edu/~accountname • *Most campus services require your GT account* • *CoC Instructional Labs require your GT account*
CoC	Will be the same as your GT account	You must apply online (see the link to the right).	No activation necessary. You will receive email when the account is ready to use.	• Apply for account online at the following web page: http://support.cc.gatech.edu/resources/forms/account-creation • Password reset here: https://support.cc.gatech.edu/resources/forms • *Most CoC systems require your CoC account. CoC is in the process of migrating its systems to use your GT credentials.* • Ask your lab manager to request access for research lab systems • Remote access only w/SSH, SSL, IMAPS • 4GB home directory quota, 200MB web page quota • Personal web page in your home directory ~/.www-home http://www.cc.gatech.edu/~accountname • Always store data in your home directory (typically the H: drive on Windows). • *Don't* store files on local desktop disks (C: on Windows). *Desktop systems are not backed up!*

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E-MAIL ACCOUNTS AND MAILING LISTS: As a graduate student, you have only 1 email account (your GT/OIT mail account), but you have many GT email addresses. Your @cc.gatech.edu email addresses are forwarded to your GT/OIT mail account.

- Be sure to *install virus protection software* (McAfee VirusScan/Virex is free at http://software.oit.gatech.edu).
- Do not open e-mail attachments or run software from unknown or untrusted individuals or sources.
- Do not respond to phishing emails that ask you for your GT passwords or personal information.
- TSO operates a Microsoft Exchange server for faculty and staff only.

Type	Email Address	Access
GT/OIT	*accountname*@mail.gatech.edu *alias*@gatech.edu	• Webmail: https://mail.gatech.edu/ • IMAP: mail.gatech.edu • Refer to instructions on OIT FAQ website, http://faq.oit.gatech.edu/ • Setup your *alias*@gatech.edu at http://passport.gatech.edu/ • Mailing lists maintained at http://lists.gatech.edu/
CoC	*accountname*@cc.gatech.edu *first.lastname*@cc.gatech.edu	• These email addresses are automatically forwarded to your GT/OIT email address.

DATA CENTERS: There are several data centers operated by TSO and OIT that house instructional and research servers that you may have access to, such as file servers, database servers, web servers, project servers, high performance computing servers and more.

Type	Name	Location	Use
TSO	KACB Data Center	KACB 2219	• Critical "core" servers
TSO	CCB Data Center	CCB 247	• Instructional & Research servers
TSO	HPCF Data Center	CCB 259	• Research servers
TSO	TSRB "MDF" Data Center	TSRB Basement	• Research servers
OIT	Rich Data Center	Rich Building	• Administrative, Instruction, Research servers
OIT	Business Continuity Data Center	845 Marietta St.	• Business continuity servers

REMOTE LOGIN SERVERS: There are several remote login servers that you can access using secure protocols like SSH (e.g. via SecureCRT on Windows, a terminal on Linux, Terminal.app on Mac OS X).

- *There are also specific Research Area server and disk resources that you can obtain access to by being involved in those groups. Requires faculty permission from the area. Ask your Research Lab Manager.*

Type	Name	Type	OS	Use
CoC	killerbee1 killerbee2 killerbee3 killerbee4	**IBM System x3550 M4 Server** (2 x 2.3GHz Intel Xeon, E5-2630 6-core, 64 GB memory, 120 GB SSD disk)	Red Hat Enterprise Linux	• Available to all CoC grad students • Login using CoC account • General purpose interactive computing • **Not intended for instructional use** • No **heavyweight** computing please • Use the "nice" command
CoC	shuttle1 shuttle2 shuttle3 shuttle4 shuttle5	**Supermicro Server** (2 x 2.4GHz Intel Xeon E5620 4-core, 24 GB memory, 80 GB SSD disk)	Red Hat Enterprise Linux	• Available to all CoC students • Available to students enrolled in a CS course • Login using GT account • Instructional / Class use **ONLY**

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RESEARCH AND INSTRUCTIONAL HIGH PERFORMANCE COMPUTING (HPC): CoC has a number of remotely accessible research-related High Performance Computing (HPC) resources located in CoC Data Centers for the purpose of performing computational work.
- Research HPC resources have been purchased by faculty for specific research area needs.
- Access to research HPC resources requires **faculty or lab manager approval.**
- Request access through the TSO Helpdesk (helpdesk@cc)

Cluster Name	Nodes	Cores	Description	Operating System	Research Group
Bugs	6	48	**4 Dell PowerEdge 1950** (2-socket, 4-core, 2.5GHz Intel E5420, 16GB RAM) **2 Dell PowerEdge 2950** (2-socket, 4-core, 2.66GHz Intel E5430, 32GB RAM)	Red Hat Enterprise Linux 5	CSE, Data Mining and Information Retrieval Lab
Ion	8	64	**4 Appro Twin-Servers, GPU Accelerated** Each Twin-server contains two systems with 2 x quad-core Intel Xeon X5550 CPUs, 24GB of RAM, and two nVidia C1060 GPU cards	Red Hat Enterprise Linux 5	CSELa, HPC Garage
Jedi	30 / 50	360 / 400	**Penguin Relion 1752** (2-socket, 6-core, 2.66GHz Intel X5650, 48GB RAM, cloud stack) **Penguin Relion 1702** (2 x 2.4 GHz Intel E5530, 24GB RAM, cloud stack)	OpenStack	CERCS
Jinx	24 / 6 / 4	288 / 48 / 32	**HP Proliant, GPU Accelerated** (2 x 6-core Intel Xeon 5650, Twelve of the nodes contain 2 x Tesla M2070 GPU cards) **Dell PowerEdge R710** (2 x quad-core 2.66 GHz Intel Xeon X5550, 48 GB RAM, 12TB storage) **IBM System x3755** (4 x dual-core 2.4 GHz AMD Opteron Model 8216, 8 GB RAM)	Red Hat Enterprise Linux 5	Instructional HPC Resource General Research HPC access with faculty sponsorship.
Maquis	20	160	**IBM BladeCenter H** (20 blades x 2 sockets x Core2 Quad)	Red Hat Enterprise Linux 6	CERCS
Pasta	8 / 2 / 25	96 / 16 / 200	**IBM BladeCenter** (8 Blades x 2 socket x 6-core, 2.93GHz HS22 Intel 5670 Westmere) **Dell PowerEdge R410** (2 sockets x 2.6GHz Core2 Quad X5650 Xeon, 24GB RAM) **Dell PowerEdge 1950 III** (2 x 3GHz Core2 Quad)	Red Hat Enterprise Linux 5	Computer Architecture
Polynesia/ Samoa	20	180	**Dell PowerEdge 1950** (2 x 2.8 GHz Dual-Core Xeon)	Red Hat Enterprise Linux 5	CERCS
Rohan	51	102	**Dell PowerEdge 1850s** (2 x 3.2GHz Pentium4 Xeon EMT64)	Red Hat Enterprise Linux 6	CERCS
Sushi	14	112	**12 Dell PowerEdge 1950** (2 x 3.0 GHz Xeon 5160)	Red Hat Enterprise Linux 5	Computer Architecture
Topaz	36	288	**TeamHPC** (2 sockets x 2.66GHz Xeon Quad)	CentOS	CSE
Vogue	11	88	**7 Penguin Computing Relion 1700** (2 x Intel E5506, 12GB RAM) **4 Dell PowerEdge R610** (2 x Intel E5550, 12GB RAM)	Red Hat Enterprise Linux 6	CERCS
Factor	9 / 12	72 / 144	**Dell PowerEdge R610** (2 x quad-core GHz Intel Xeon X5570 48 GB RAM, 7TB of storage) **Dell PowerEdge R620** (2 sockets x 2.00GHz Xeon ES-2630L, 128GB RAM)	OpenStack	non-Research, Instructional HPC Resource
Whitestar	840	3360	**IBM BladeCenter LS20** (2 x 2.0 GHz AMD Opteron 270, 4GB RAM, cloud stack)	VMware VCenter	CERCS

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INSTRUCTIONAL COMPUTER LABS: As graduate students of Georgia Tech and the College of Computing you have several instructional computing lab resources available for your use, some operated by OIT and others operated by CoC.

Caveats for CoC Instructional Labs:
- _All GT/OIT and CoC Instructional Labs use your GT account/password._
- CoC lab machines are reserved at various times for specific classes (***observe schedules, leave quickly/quietly when asked***)
- Always store data in your home directory (which is mounted as H: drive on Windows).
- ***Don't*** store files on local disks (C: on Windows). ***These systems are not backed up!***

Type	Lab Name	Seats	Equipment	Access
GT/OIT	**Library West**	114	• Dell PCs running Windows • Apple Macintosh OS X • Digital media software • Color laser printers, scanners, DV cameras	• All GT students • Open daily, closed nights
GT/OIT	**Student Center**	39	• Dell PCs running Windows • B/W & color laser printers	• All GT students • Open 24 hours
CoC	**Baird Lab,** CCB103	20	• Custom PCs with Windows & Linux • B/W printers	• Available to all CoC students • Supports second and third year CoC undergraduate curriculum • Open 24 hours
CoC	**Mac Digital Media and Gaming Lab,** CCB103	14	• Quad-core Intel Core i5 iMac running OS X • Digital media software and equipment • Large video scratch disk, DVD+RW	• Must be taking certain CoC classes • Supports CoC digital media, graphics and gaming curriculum • Open 24 hours
CoC	**1371 TA Lab,** CCB108	14	• Dell PCs running Windows	• For support of CS1371 (non-majors CS course) • Restricted Access, TAs only
CoC	**InfoSec Lab** CCB104A	16	• Intel PCs running Linux	• For support of Information Security • Restricted Access

COC RESEARCH LABS: Extensive computing resources are available to graduate students associated with CoC Research Centers, Labs, Groups and Projects. Talk with your faculty advisor or Lab Manager to obtain access.

- List of Labs and Lab Managers: http://support.cc.gatech.edu/facilities/research-labs
- _**Lab Managers**_ are typically fellow graduate students who work to coordinate technical aspects of the lab.
- Lab Managers can:
  - Answer simple questions about the research lab and resources
  - Approve login access to related lab desktops, servers, storage
  - Coordinate equipment issues in the lab (allocation, movement, repairs)
- *1ST YEAR GRAD STUDENTS MAKE GREAT LAB MANAGERS…VOLUNTEER, IF INTERESTED!*
  - Talk with your faculty advisor to see if there is a need.
  - Most labs already have Lab Managers, so check the web site above.
  - **Volunteers ONLY…this is NOT a funded position.**
  - Being a Lab Manager is a great way to learn about research projects and the resources they need.
- Research Labs typically have UNIX groups, mailing lists, etc. Talk with your Lab Manager about getting access to those resources.

GRADUATE STUDENT DESKTOPS: Many research labs have desktop PCs running MS Windows XP and Linux as well as Macs running OS X. Talk with your Lab Manager to obtain access to those resources. TSO maintains managed OS loads that adhere to Institute best practices:

- **TSO Managed OS Loads:**
  - Windows 7
  - Red Hat Enterprise Linux 6
  - Ubuntu LTS 11.04
  - Fedora 15
  - Mac OS X (10.7+)
- Authentication via CoC or GT user account/password
- Automated installation of security patches
- Host-based Anti-Virus, Anti-Spyware and Firewall

- If you need local administrator on of these systems, get authorization through your Lab Manager.

INLAND/OUTLAND NETWORKING: Desktops, serves and printers in CoC are typically connected to one of two networks.

Type	Network Name	Access
CoC	InLANd	• TSO managed and trusted network • All baseline equipment use this network
CoC	OutLANd	• A non-TSO managed and untrusted network • Appropriate for research needs that stretch beyond TSO baseline • Static IPs • Requires faculty sponsorship

WIRELESS & WIRED MOBILE NETWORKING: Using your laptop (or other mobile device) you can access the GT network using wireless technology or using wired *"walk-up"* ports with an Ethernet cable.

Type	Network Name	Access
OIT	**LAWN** (*Local Area Wireless & Walkup Network*). Also known as **GTwifi**.	• http://www.lawn.gatech.edu/ • LAWN is available in many GT buildings including all CoC occupied buildings (CCB, KACB, and TSRB) • 802.11g everywhere, but 802.11n wireless is in many locations • "Wired" wall-ports support LAWN too (faster uploads and downloads) • Configure device with DHCP • Configure the network security as **WPA2 Enterprise** • If prompted, accept the gtwpa.lawn.gatech.edu certificate • Select **PEAP** as the EAP type • Select **MS-CHAPv2** as the authentication method. • Authenticate using your GT account/password

SOFTWARE DOWNLOADS: As a student of GT/CoC, the following software is available for download.

Type	Available Software	Online Reference
OIT	Red Hat Enterprise Linux, McAfee VirusScan/Virex, Webroot Spy Sweeper, Endnote, Mindware, NAG, Mathematica, SecureCRT, WinSCP, WebDrive, Cisco VPN client, X-Win32 (and more)	http://software.oit.gatech.edu/
CoC	MS Windows and other MS software (through MSDNAA program), not Office however.	http://support.cc.gatech.edu/resources/downloads

Discounted software for purchase is also available:

Type	Available Software	Online Reference
e-Academy	MS Office and more…	http://gatech.e-academy.com/
SRS	MS Office, Adobe, Autodesk, and more…	http://www.srs.usg.edu/

WEB RESOURCES:

Type	Resource	Online Reference
OIT	**Personal home page**	http://www.prism.gatech.edu/~accountname
OIT	**ISP-like web hosting service** Offering general web programming, Drupal, WordPress, Mediawiki, and more. (Only faculty can request sites.)	http://hosting.gatech.edu/
CoC	**Personal home page**	http://www.cc.gatech.edu/~accountname
CoC	**General web hosting**	http://support.cc.gatech.edu/services/web-hosting
CoC	**Group collaboration servers** (for research group home pages, project pages, etc. Offers Drupal, Mediawiki, SVN/TRAC, Mailman, FTP)	http://research.cc.gatech.edu/ http://wiki.cc.gatech.edu/ http://mailman.cc.gatech.edu/ http://svn.cc.gatech.edu/ ftp://ftp.cc.gatech.edu/
CoC	**Web programming server** (research projects, etc. PHP, MySQL)	http://www-dev.research.cc.gatech.edu/

BUZZCARD ACCESS TO BUILDINGS: Your BuzzCard provides physical access to CoC Buildings (CCB, KACB and TSRB). All CoC faculty have access to open CCB and KACB exterior doors. For TSRB exterior doors, you need to obtain permission from the School of Interactive Computing. ***Access to any other doors is specific to a class or roll, or is granted on an individual basis when faculty or staff request access for the student.***

PRINTERS & MOPIERS: As faculty of the College of Computing you have access to the following general purpose printers and mopiers. For complete printing instructions please refer to http://support.cc.gatech.edu/services/printing.

Printer/Mopier Name	Location	Type
moe	CCB 148	HP LaserJet 4300dtn
dad	TSRB 360 – 3rd Floor North Hallway	HP LaserJet 4300
gvulab	TSRB 208 – 2nd Floor Copy Room	HP LaserJet 8000
uncle-max	TSRB 235 – 2nd Floor North Hallway	HP LaserJet 4300
ccb-1n-mopier	CCB 106	Ricoh Aficio MP 8001
ccb-1se-mopier	CCB 157A	Ricoh Aficio MP 5000B
ccb-1sw-mopier	CCB 108	Ricoh Aficio MP 5000B
ccb-3n-mopier	CCB 342	Ricoh Aficio MP C7500
tsrb-3s-mopier	TSRB Copy Room	Ricoh Aficio MP C5000

• ***In CCB, obtain paper from TSO Helpdesk. In KACB and TSRB, contact the administrative staff in your school.***