Co-Location Service

What is "Co-Location?"

"Co-Location" is an ITS service that allows departments and researchers at the University of Hawaii to locate and operate their computing hardware inside professionally maintained data centers on the Manoa campus.

Why should I use this service?

This service offers several benefits which may be of value to you, including:

- Reliable power and cooling will increase the uptime of your equipment
- Physically secure facilities will better protect your computing equipment from theft, vandalism and accidental damage
- Moving equipment out of your local offices frees up space for your other priorities
- Efficient power and cooling reduces UH's use of natural resources and overall expenses
- The environmentally hardened IT Center Data Center can reduce the risk of your equipment being damaged or unavailable due to natural disasters

ITS Data Center

ITS provides co-location service at the IT Center located on the University of Hawaii Manoa campus, 2520 Correa Road, Honolulu, HI 96822.

What are the features of this service?

Users of this service can expect the following from ITS:

- **Consulting.** ITS can provide consulting assistance to help you plan for your use of the service.
- **Physical monitoring.** ITS will monitor the data center to make sure only approved personnel enter the facility.
- **Network monitoring.** ITS will monitor the data center network, firewall and other support services to ensure they are available and operating as expected.
- **Installation/Removal.** ITS will coordinate all equipment installation and removal in the ITC Data Center. See Appendix 3 of this document for more detail on what exact support ITS will provide.

What do I have to do?

As a consumer of this service, you are responsible for the following:

- **Access Control.** You must identify at least two people that shall have physical access to the data center and your equipment. You must identify at least two administrative contacts who will be responsible for maintaining and updating your access list. This access list is used to verify access to your equipment and is not modified by ITS.
- **Badges.** You are responsible to hold and protect any data center badges/keys you are given. You are responsible to make sure only the people you have specifically put on your ITS access list enter the facility. You are also responsible for returning all badges/keys to ITS in a timely manner. ITS will charge you for lost badges/keys.
- **Disposal.** When your current ITS data center equipment reaches end-of-life, you will be responsible for removal and disposal. ITS Staff can assist in coordinating ITC Loading Dock access if required.
- **System operation.** You are responsible for the operation of your computing devices including managing hardware upgrades and maintenance, installations, removals, and software upgrades.
- **Network connectivity.** If you purchase the full cabinet service, you are responsible for managing the network within your cabinet. If you purchase the per rack unit service, ITS will handle these responsibilities.
- **Security of devices.** You're responsible for following University guidelines and general best practices for securing your IT components. This includes registering and patching servers, using appropriate malware avoidance software and maintaining access control lists for your devices. If you handle HIPAA, FERPA, or PCI data you are responsible for identifying an appropriate compliance officer to ensure you are handling and securing your data in accordance with UH, state and federal policies for handling such data.
- **Providing network and firewall requirements.** You're responsible for providing ITS with any network or firewall requirements for your systems.
- **Backup and recovery.** You're responsible to make sure your data assets are backed up to support your recovery needs. You are also responsible to perform any system recoveries.
- **Keep your contact information up to date.** At least two contact names will be provided to ITS when you sign-up for the service. These contacts will be the only people permitted into the data center to access your equipment. ITS will also use these names when communication about the service is necessary (e.g. to announce a potential outage or explain problems). It is critical, therefore, that you notify ITS in a timely fashion of any changes to your contacts. Send changes to: itscolo@hawaii.edu.
- **Follow data center etiquette.** You are responsible for following any posted or published rules in the data center as well as using general best practices (e.g. don't touch others equipment or connections). No housing equipment in vacant or cabinets that you are not paying for. No unboxing or storing of cardboard is allowed in the data center to maintain acceptable environmental thresholds and working conditions.

- **Payment.** You're responsible for paying for your service.
- **Storage.** The ITC Building and Data Center has limited space, as a result storage is not available for colo customers. We can stage a finite amount of colo equipment in the hallway for no more than three working days. If equipment remains for longer than three working days ITS reserves the right to discard the contents and charge a $50 clean up fee.

How do I report a problem?

If at any time you need assistance regarding the co-location service or you find that the service is not operating as expected, send email to itscolo@hawaii.edu. This email group is monitored by technical support staff during normal business hours. If the problem is urgent you can call 1-808-956-2393. This phone number is monitored 24x7x365.

If you feel your issues have not been adequately addressed through normal channels, you can escalate your concerns to the service owner (Kevin Kawabata - kykawaba@hawaii.edu).

How do I access my equipment?

Whenever you want to access your equipment, call ITS at 808-956-2393. ITS staff can arrange logistics with you to let you into the facilities. Please refer to Access Controls for additional information.

How does billing for the service work?

ITS will charge all customers for Data Center Services provided during a standardized billing cycle which is from June through May. ITS will submit a service billing document to KFS to charge the account code provided by your department. This will occur in June after services are rendered for the previous billing cycle. Prorations will be reflected to align customers to the billing cycle.

- **Service expansion.** If over the course of the year, you placed an order to expand your use of the service, ITS will prorate that amount for the remainder of the billing cycle. Subsequent charges will be included in your bill.
- **Service cancellation.** If you cancel the service, where allowable by fiscal policy, ITS will refund the pro-rated amount within sixty days of your equipment being completely removed from the facility and your keys being returned to ITS.
- **Service reduction.** If you reduce the use of your service during the middle of the service term, where allowable by fiscal policy, ITS will credit the pro-rated amount toward your next bill after your equipment has been completely removed from the facility.

If you have problems with your bills, please contact the DCS Billing Team at itsdctr@hawaii.edu.

Network & Security

ITS will set-up your servers on a network within the data center. This will allow your servers to be isolated from other servers within the ITS Data Center. This will reduce the risk that your server will be adversely affected by another server, or vice versa.

You may elect to have your services behind the ITS firewall. ITS will work with you to determine what traffic should or should not be blocked from your servers.

Maintaining the security of your servers is your responsibility. You should make sure software is patched, malware is blocked, passwords are secure and access lists are managed. If for some reason your server is compromised, and it becomes a threat to the greater UH community (e.g. it is being used as a host to attack other services), ITS reserves the right to remove your equipment from the network or block its traffic. If this occurs, ITS will notify you immediately.

ITS access to your equipment

For safety purposes, ITS reserves the right to inspect your cabinet as necessary to ensure power, networking and other standards are being correctly followed. ITS may also take immediate steps to remedy any safety and operational issues.

Special service requests

In general, ITS believes this service is structured well to support a wide-range of UH users. Of course, it's possible that some very large installations or very unique situations will arise where this service may not work perfectly for some people. In these situations, ITS is happy to meet with you to discuss your special needs, and see if we can tailor the existing service to make it workable for you. Custom service requests may involve additional charges.

Appendix 1: Specific Service Levels

The table below describes the specific service levels provided by ITS.

Service Area	Description
Physical Security	ITC Data Center • 7x24x365 video monitoring. • 7x24x365 on-site ITS personnel. • Locked racks. (Locks are common across all racks. For a fee, combo locks can be installed.) • Access to ITC will require contacting ITS . They will physically escort you into the facility. ITS offices are located immediately next to the data center on the 2nd floor of the ITC.
Monitoring	7x24x365 monitoring of network, DNS, and ITS firewall components.
Unplanned Outages	• An unplanned outage is a service interruption in cooling, power, or data center network that has not been scheduled in advance by ITS personnel. ITC Data Center • 99.8% availability for Data Center Network • 99.8% availability for Power and Cooling components. • Note, ITS is reliant on campus water supply for ITC cooling purposes. If campus suffers a water supply problem, cooling will be adversely affected.
Planned Outages	• A planned outage is defined as a service interruption in cooling, power, or data center network that has been initiated by ITS. • There will be no more than 2 planned outages per year. • 30 days advanced warning before any outage. • Outages will be scheduled during non-business hours.
Service Requests	• ITS staff will respond within 1 business day for service requests sent to itsdc@hawaii.edu (e.g. request to update access list).
Problem Reports	• ITS staff will respond within one business day to emails sent to itsdc@hawaii.edu. • For urgent problems, ITS staff are available via phone 24 hours a day (808-956-2393). ITS staff may refer questions to other groups as appropriate.
Outages	ITS will post information about any outages on the ITS web site at: http://www.hawaii.edu/its/alerts/.

Appendix 2: Technical Specifications

Usually, cooling will be the limiting constraint on devices within the ITS data centers. This means that the number of computing devices in each rack will be limited by how much heat they produce which is usually directly correlated to how much electricity they use.

The table below describes the technology and constraints of the ITS data center at a high level. If you have needs outside of these specifications, you should consult with ITS. We can describe what other options we may be able to support.

	ITC Data Center
Type of Racks	• Chatsworth Terra-Frame • Vertical rails • Peg and post mounting.
Capacity	• Generally 20 power connections per rack but higher options may be available with different cooling approaches
Power & Cooling	• 120V or 208V • Chimney cooling on racks or optional rear door coolers (configuration to be determined by ITS)
Network	• One network connection will be provided for each device installed within the rack. • ITS will provide 1Gb connections. 10G connection to rack is available for an additional cost.
Weight	• The total weight of a full rack cannot exceed 3000 lbs.

Appendix 3: Setup and Installation of Your Equipment

Once you've decided to use the Co-Location Service, ITS can work with you to get your equipment set-up and installed within the data center. The table below describes the assistance they can provide you during the setup of your equipment.

Activity	Description
Racking	ITS will work with you to physically install your equipment in racks within the data center. If you have requested combo locks for your racks, ITS will acquire and install these.
Power	A standard power configuration is defined in this SLA. If you have power needs beyond these standards, ITS will try to meet them. Of course, ITS will be limited by the constraints of its data center facilities and equipment. *Please note it is possible that future co-location rates may be based, in part, upon the power configuration of your rack. If this occurs, your requests for additional power may result in your co-location fees being raised in the future. (As stated earlier in the SLA, ITS will review rates annually and will communicate changes to the rates well in advance to all customers.)*
Network	ITS will make sure the physical network is set-up correctly up to your cabinet.
Domain Name Service (DNS)	Based on your input, ITS will ensure that domain name service is properly configured for your devices.
ITS Firewall Rules	Based on your input, ITS will ensure that the ITS firewall rules are properly set-up for your devices.
Backup	At the present time, ITS does not offer backup services.
Other	Additional professional services are available to support you and your team. (Additional hourly fee may apply.)

Abbreviations used in this document

CDU	Cabinet Distribution Unit	Device within a rack which handles power for all devices within the rack.
CIO	Chief Information Officer	Statewide IT leader for the University of Hawaii.
DNS	Domain Name Service.	Internet protocol service for resolving IP numbers and names.
HIPAA	Health Insurance Portability and Accountability Act	Federal Act that outlines requirements for handling health records.
ITC	Information Technology Center	New campus building which is home to ITS staff offices and an ITS data center.
ITS	Information Technology Services	UH system wide information technology organization.
PDU	Power Distribution Unit	Device within the data center that provides power to a row of racks.
SSL	Secure Socket Layer	Encryption protocol commonly used to protect web-based communication.