

STATE OF DELAWARE
DEPARTMENT OF TECHNOLOGY AND INFORMATION
 801 Silver Lake Blvd.
 Dover, Delaware 19904

Document Type:	DTI Internal Policy	Page: 1 of 9
Document Title:	Policy for Working within DTI Data Centers	

Synopsis:	This document is the policy to be followed when working in a DTI Data Center.		
Authority:	DTI Chief Operations Officer		
Applicability:	This policy applies to all employees of the Department of Technology and Information (DTI), vendors, contractors and anyone working in DTI datacenters.		
Effective Date:	9/1/2016	Expiration Date:	None
Office of Primary Responsibility:	DTI/Chief Operations Office/Data Center and Operations/Team Leader/Data Center Manager		
Approval By:	Justin Day		
Approved On:	9/7/2016		

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Details

Purpose

The Department of Technology and Information (DTI) data centers are highly controlled, stable environments. Therefore, any changes to the physical environment in the data center must be managed. According to the Uptime Institute, more than half of all site infrastructure failures are directly related to human activity and error. Most failures can be prevented by adherence to appropriate procedures. The majority of unplanned downtime events coincide with technicians installing equipment, pulling cables, reconfiguring or troubleshooting site infrastructure equipment, or performing maintenance. Personal accountability and responsibility are required of everyone performing work in this critical space.

The purpose of this policy is to inform anyone with a need to work in a DTI Data Center of the rules while in a DTI Data Center. All personnel working in any DTI Data Center are required to read and sign acknowledgement of the policy. The employee signature represents review, understanding and agreement to comply. At a minimum, employees will review and sign when the policy is updated or on an annual basis, whichever comes first.

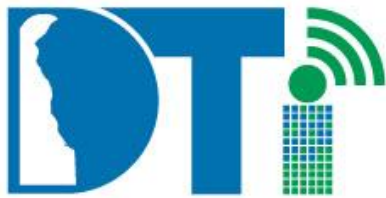
Data Center Rules

General

1. It is the responsibility of authorized escorts to ensure that procedures are followed by anyone he/she has escorted into the production space. DTI Visitor Management is governed by the DTI Physical Security Policy. Access to the Data Center is outlined in the internal DTI procedure for Data Center Access.
2. At times, safety cones, barricades, caution tape, or other safety equipment and devices are used to direct people away from hazardous areas such as open floor tiles. Do not cross protective barriers or devices without asking for authorization by [Data Center & Operations \(DC&O\)](#) management staff. Be especially alert and aware in areas where floor tiles can be removed exposing the under floor area.
3. The taking of pictures and the recording of videos are prohibited in the data center unless specific, documented authorization is granted in advance by DTI Security.
4. All staff working in the data center will ensure manuals and reference materials that are required in the data center are returned to their proper location. These items are not to be left or stored in cabinets or in the white space.
5. The work area is to be left cleaner than found. Do not allow trash or debris to accumulate. At the end of each shift all tools, equipment, trash or debris will be removed. Tools and equipment will be stored as directed.

Asset Protection

1. Gunpowder discharge activated construction tools or devices are not permitted.
2. No firearms, explosive chemicals or devices, or weapons of any type are allowed on the site.



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- DTI is a Tobacco Free Campus, smoking and the use of tobacco products is not permitted within any building or on DTI property.
- Paints, solvents, adhesives, or any other flammable materials inside the building must be kept to a minimum and will be stored in metal fire rated cabinets when not in use.
- Perforated tiles shall not be relocated unless approved by DC&O management. Nothing should be placed on top of a perforated tile to obstruct airflow.
- Do not set anything on top of equipment or block access to any aisle ways, doors, air conditioning units, Power Distribution Unit (PDU), EPO buttons or switches, or electrical panels.
- Do not touch any equipment or wiring unless it is specifically identified in your Change or Incident ticket.
- Pipe cutting, pipe threading, cement cutting, or other drilling within the computer room is not desirable as it creates debris which can be hazardous to computer equipment. If such work cannot be avoided the worker(s) must take care to prevent metal shavings and/or concrete dust from falling on the floor or from becoming airborne. For example, a HEPA filter equipped vacuum may be required at the cutting source and/or the use of cutting oil may be required to minimize metal shavings. Absorbent pads may be required to prevent oils from staining the floor.
- Any vacuum used in the computer room or in a fire detection zone must have a HEPA filter on the discharge, a new internal filter, and must be approved by the data center management.
- Manage any physical changes or penetrations to the Data Center structure so as to prevent or minimize leaking water. Seal penetrations between floors that might allow water to leak through to the floor below.

Working Under the Raised Floor

- Work on or under the computer room raised floor or related infrastructure support equipment will not be done without approval from DC&O management. Such work includes, but is not limited to, computer equipment installations or upgrades, installation or removal of computer cables (electrical or signal), or any work requiring floor tile removal.
- Replace all floor tiles immediately after work completed work to preserve the integrity of the underside air flow.

Equipment Movement

- Notify the DC&O management when large/heavy equipment is being moved into or out of the data centers or from the dock. It may be necessary to use Masonite, plywood and/or metal transition plates to protect the floors and thresholds from heavy loads.



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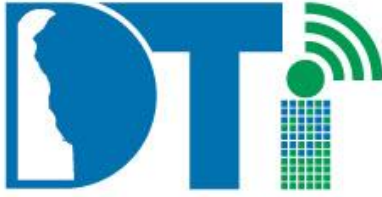
2. Data center doors are not to be propped open. Instead notify DC&O management before moving large equipment into or out of the building or the whitespace, so that open doors and door alarms are properly managed.
3. All packing material must be removed from equipment and/or components in the specified staging areas prior to being moved into the Data Center.

Power

The critical power distribution system takes conditioned power from the Uninterruptible Power System (UPS) and distributes it throughout the facility to individual loads. Site failures can occur in this area where hot electrical work is required and it is difficult to perform physical maintenance.

Frequent problems include:

- Cover slipped while accessing load panel
 - Overheated breakers which trip unexpectedly
 - Wires which are not physically secured under screws
 - Screws which are not torqued adequately
 - Wires or circuit breaker handles which are dislodged while adjacent work is being performed
 - Skinned insulation, faulted wires
 - Reversed rotations
1. Access to critical power distribution components including electrical panel boards and PDUs is restricted. Contact DC&O management to discuss access.
 2. Do not remove or apply power to any piece of equipment without first informing and receiving clearance from DC&O management. Any actions affecting critical power or cooling must be part of a previously scheduled Change Management work order.
 3. Be especially careful around any computer hardware that has had the protective outer metal skin removed. With its covers off, such equipment is usually more susceptible to nearby electrical disturbances.
 4. Be sure to locate all computer or communication devices that consume power above the raised floor.
 5. Only designated non-UPS circuits must be used if power is required to perform work.
 6. When in doubt about whether a button is an Emergency Power Off (EPO) button or whether to activate an EPO button, contact DTI management.
 7. Any type of work on or near an EPO button requires an approved change ticket.



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8. Non-metallic fish tapes will be used for all electrical work.

Storage

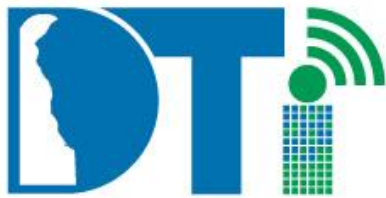
1. Surplus equipment and supplies will not be stored in the datacenter.
 - 1.1. All paper supplies should be stored in a designated storage area.
 - 1.2. New hardware and cable should remain in a designated staging area outside the whitespace until the time of installation.
 - 1.3. Nothing will be stored under the raised floor.

Fire Suppression

1. Fire rated doors must not be propped open. Leaving fire doors open can help fires spread and can prevent the suppression gas (where applicable) from reaching sufficient suppression concentration. Leaving doors open also affects computer room temperature, humidity stability and security.
2. Permanently fire-stop all holes or cable openings in firewalls or fire barriers upon job completion. Temporary fire-stop them at the end of each workday.

NOTE: Please refer to the Structured Cabling System Standards and Specifications for State-Managed Facilities document located at <https://dti.delaware.gov/information/standards-policies.shtml> under Network > Cabling and Wiring.

3. A fire watch will be established any time the fire detection, alarm, or suppression system is disabled. A fire watch requires a complete physical tour of all spaces in the de-activated fire detection zone at least twice per hour. Technicians will not be permitted to leave the site until all fire systems have been re-enabled.
4. Scheduled activity and/or use of tools which generate heat, dust, or smoke may require the fire suppression system to be disabled in order to prevent false alarms, system dumps, or power outages. DC&O management will check if fire detection systems are active or need to be deactivated during scheduled activity. Only DC&O management personnel or their assigned vendor designate will deactivate and reactivate the fire detection system. It is your personal responsibility to verify that the systems have been deactivated prior to beginning work in the datacenter.
5. In the event of a fire alarm, all employees, vendors, and contractors are to evacuate the building along with others in the same area. DC&O management personnel are responsible for checking worker headcount and reporting to the fire official in charge that their people are out of the building or the status of those under their responsibility.
6. It is a good practice to always make sure you are aware of the nearest fire exit.



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7. In the event of an emergency, do not congregate in the area of the problem unless you have direct responsibility for solving the problem.

Professional Behavior

1. Professional behavior is expected at all times. The following behaviors will not be tolerated: profane language, abusive behavior, being under the influence of alcohol or drugs, sexual comments to or about employees, leering, and other offensive or inappropriate behaviors.
2. All personnel, including vendors, contractors and other service providers, must dress according to DTI standards and act in a professional manner.
3. Absolutely no objects (keys, tools, etc.) are to be thrown in the data center.
4. Food, drinks, and reading materials (i.e. magazines, newspapers, etc.) are not permitted in power, battery, UPS, data center, test, staging rooms, or other critical spaces as defined by DC&O management.

Definitions

Change Ticket: Ticket generated in ServiceNow managed by internal DTI System Control.

Emergency Power Off (EPO): A button or switch that shuts down the power in a room or network of electrical circuits. Typically used in data centers, where there are large amounts of computers using large amounts of electricity, the EPO is meant to be activated by a human only in emergency situations when it is necessary to cut the power if human life is in jeopardy or if there is the potential for major damage to the building or equipment (e.g., in the case of a fire or electrocution). The sudden loss of power will inevitably lead to the loss of some data, and the EPO is not meant to be used under normal circumstances.

Fire-stop: A firestop is a fire protection system made of various components used to seal openings and joints in fire-resistance rated wall or floor assemblies.

HEPA filter: High-efficiency particulate air (HEPA) is a type of air filter. To qualify as HEPA by US government standards, an air filter must remove (from the air that passes through) 99.97% of particles that have a size of 0.3 μm .

Incident Ticket: Ticket generated in ServiceNow to report problems or incidents.

Power Distribution Unit (PDU): A power distribution unit (PDU) is a device fitted with multiple outputs designed to distribute electric power, especially to racks of computers and networking equipment located within a data center.



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Uninterruptible Power System (UPS): A power supply that includes a battery to maintain power in the event of a power outage.

White Space: Usable raised floor in the data center production environment measured in square feet (anywhere from a few hundred to a hundred thousand square feet).

Development and Revision History

Date	Base Line or Revision Information	Changed By: Name of Owner or Author	Revision #
8/22/2016	Version 1	Al Robles	0

Approval

Original Signed

9/1/2016

Alwin Robles

Support Center Sr. Manager
Data Center and Operations

Date of Signature

Original Signed

9/7/2016

Chris Carlin

Data Center Sr. Manager
Data Center and Operations

Date of Signature

Original Signed

9/7/2016

Justin Day

Team Leader II
Data Center and Operations

Date of Signature

Related Documentation

[State of Delaware Enterprise Standards and Policies](#)



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- Network
 - Cabling and Wiring
- System Management
 - Data Center Policy

[DTI Employee Policies](#) are located on the DTI Extranet:

http://extranet.dti.state.de.us/information/dtie_information_policies.shtml

- *Change Control*
- *Dress Code*
- *Managing Access to Service Rooms*
- *Physical Security*
- *Video Surveillance*
- *Zero Tolerance*

[DTI Business Processes \(Internal\)](#) are located on the DTI Intranet:

<https://intranet.dti.state.de.us/DTI%20Business%20Processes/Forms/AllItems.aspx>

- *Data Center Access*



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Employee Acknowledgement and Acceptance

I have read the DTI Policy for Working within DTI Data Centers. I acknowledge, understand and agree to follow the requirements of this policy.

Printed Name, Title, Organization/Section:

Date of Signature