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Technology Services Data Center
Operational Policy and Procedures

TSDC Operational Policy and Procedures

Intended Audience: General personnel with Technology Services Data Center (TSDC) -Access.

Policy and Procedures – Provides guidance and governance for the TSDC Data Center; installation, removal, physical access controls and security; safety; request for special services or resources; space request; power management; cable management; general maintenance and cleanliness of the work area; and other miscellaneous items within the data center.

Purpose – In order to provide reliable, safe, and secure data center and critical facilities, certain practices must be instituted and enforced. This document establishes standards and procedures for TSDC managed data center facilities for the University of Illinois Urbana-Champaign. These procedures apply to all TSDC data center staff, customers, and authorized service providers. These procedures address topics that include, but are not limited to, safety, security, packing material, salvaging of equipment, space requests, computer hardware installs and de-installs, power, cabling, overall cleanliness, and other miscellaneous items within the data centers.

Exceptions – Emergency or urgent changes to these policies will be made on a case-by-case basis with the approval of the TSDC Operations. Any permanent changes to this document must be approved by all parties that govern the use of the facilities.

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Compliance – All users of the TSDC facilities have a responsibility to comply with the policy and procedure. Additional rules or restrictions that fall outside this current policy and procedure may be applied as required by TSDC Operations to maintain a safe, secure, and professional environment. Should that be necessary, the new rules or restrictions will be incorporated into this document.

Failure to comply could result in the loss of access to the facilities and services of the TSDC.

1.0 Safety Requirements

1.0.1 No floor tiles may be removed without the permission of the facility manager of the specific site or a member of their team. If floor tiles must be removed, the open space must be cordoned off by safety cones. No more than two contiguous tiles may be open at the same time. Due to the adverse effect on sub-floor pressure, the number of tiles pulled must be kept to a minimum; no more than six tiles in total may be open at the same time Exception available upon approval of TSDC Operations. All vented floor tiles must be returned to the positions from which they were removed, and all air dams maintained in the position they were found.

1.0.2 All computer cabinets and doors must remain closed always unless they are being serviced.

1.0.3 Modifications to the data center electrical system must be performed by authorized electricians. Any changes must be authorized and coordinated by TSDC Operations or the data center facility manager. All electrical testing must be scheduled with prior authorization from TSDC Operations. All work

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must be compliant with the National Electrical Code (NEC) and follow the guidelines of TIA-942.

1.0.2 Only the Facility Manager or his designee may authorize the activation of the emergency power off (EPO) system. Activation of the EPO system must be done after disabling or putting the system into by-pass and must follow step by step instructions. In all cases TSDC Operations must be notified before the system becomes inactive and when it's returned to service.

1.0.3 No work may be done below the raised floor area without the approval of the TSDC Operations or facility manager.

1.0.4 If an alert is activated due to smoke detection system in the data center, follow any existing bldg. evacuation procedure.

1.1 Air Condition and Air Quality Requirements

1.1.1 Humidity Levels in the TSDC facilities (excluding non-data center critical facilities) must be maintained at 40% - 50%.

1.1.2 Temperature levels in the TSDC data centers must be maintained ideally at 70 degrees (F), and always within 65-75 degrees (F).

1.1.3 All computer room air conditioners (CRACs) and computer room air handlers (CRAHs) necessary for appropriate function must always be serviceable. Preventive maintenance service will occur quarterly and be scheduled by F & S staff. Preventive and emergency maintenance services may not be restricted in any way.

1.1.4 Industrial cleaning liquids or fluids may not be left unattended in the data center.

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1.1.5   All floor tiles alterations must be approved and coordinated by TSDC Operations or facility manager. If holes must be cut in the floor panels to accommodate new equipment, the panel shall be removed from the data center, the holes cut, and a KoldLok ™ floor grommet (or another approved floor grommet) installed. If the floor tile cannot be removed from the data center, HEPA vacuums must be used both above and below the raised floor surface to capture the dust particles created by the sawing action. A KoldLok™ floor grommet (or another approved floor grommet) must then be installed. A HEPA vacuum is available from TSDC Operations. The vacuum must not be removed from the data center.

1.1.6   If no work is being performed, no open holes of any kind may be left exposed in the data center raised floor, to avoid creating unbalanced airflow and an unsafe work condition. No additional vents, grills or perforated tiles may be added without coordination with TSDC Operations or facility manager.

1.1.7   Food or beverages are not allowed in the data center.

1.1.8   No changes may be made to the data center heating, ventilation, and air conditioning (HVAC) systems without the approval of the TSDC Operations facility manager.

1.1.9   New equipment destined for a data center must be unpacked outside the data center in room 202. The ONLY EXCEPTION that will be granted is for single pieces of equipment weighing 200 pounds or more. If an exception is granted that allows equipment to be unpacked inside the data center, care must be taken to limit the introduction of contaminants into the airflow. HEPA vacuums must be used to clean up after the unpacking process. Equipment leaving the data center must be packed in room 202. The ONLY EXCEPTION that will be granted is for single pieces of equipment weighing 200 pounds or more. Packing materials shall not be left in the data center.

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1.1.10 The contracted HVAC maintenance contractor (F&S) will perform maintenance activities to the HVAC systems as scheduled, based on site requirements.

1.2 Authorization and Access Requirements

1.2.1 Access to all TSDC must comply with "Data Center Access Policies and Procedures" document.

1.3 Modifications and Changes

1.3.1 All modifications and changes within TSDC facilities including but not limited to infrastructure modifications, commissioning and decommissioning of equipment, scheduled preventive maintenance and emergency maintenance of equipment, and testing of systems must be scheduled according to change management procedures (if applicable), and must be coordinated with the TSDC Operations or facility manager.

1.3.2 Maintenance within the data center that could affect tenants must be pre-approved by the TSDC Operations or facility manager. It will be the responsibility of the TSDC Operations or facility manager to provide written notification to team and/or other stakeholders of the facilities by stating the hours of work, type of work being performed, and the names of the parties involved in the work.

1.3.4 Data center hardware, such as racks or shelving may not be removed or added to the facility without approval of the TSDC Operations or facility manager.

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1.3.5 All space allocations within the TSDC facilities will be the responsibility of the TSDC Operations or facility manager. All special projects must be coordinated with the data center lead.

1.3.6 All equipment must be rack mountable, racks used in the facilities must be assigned by the TSDC Operations or facility manager.

1.3.7 All furniture items within the facilities, including desks, chairs, tables, and shelving and server cabinets are the responsibility of the TSDC Operations. Furniture items may not be added, removed or relocated without TSDC Operations or facility manager approval.

1.4 Decommissioned Equipment

1.4.1 Removal of all decommissioned equipment must be coordinated with the TSDC Operations or facility manager. The data center manager will schedule a removal date and coordinate the date and time for owner pickup.

1.4.2 All decommissioned / abandoned equipment will be removed from the facilities within 5 days of notification and surplused using process required by individual departments.

1.4.3 All decommissioned communication cabling-including voice, data and fiber cabling must be removed from the data center and critical facilities by the appropriate party within 5 days of notification that the surplus process has been completed. Decommissioned cables are defined as cables that are abandoned or no longer to be used in the facility.

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1.5 Server and Network Cabinet Requirement

    1.5.1   Server cabinet should be a full enclosure with locking mechanism. The standard cabinet will be approved by TSDC Operations.

1.6 Electrical Power Requirements

    1.6.1   Only F&S authorized electrical service provider may open or change any electrical panel or power distribution unit. Standard power for the server cabinet in the data center is 3 phase 208V 30 and 60 amps. Each PDU will be supplied by two different distribution panels to guarantee effective redundancy.   Customers are expected to use provided PDUs. Standard is 3 phase 208V 30 amps.

    1.6.2   Electrical cables under the raised floor or at the service connection may not be plugged in or unplugged by anyone other than TSDC Operations authorized personnel.

    1.6.3   Power outlets may only be used or installed with the approval of the TSDC Operations or facility manager. TSDC Operations is responsible for plugging in and unplugging equipment power cords under the raised floor or at service connections as equipment is commissioned or decommissioned. Cleaning equipment or tools used to perform authorized work in the facilities may only be plugged into the wall sockets designated as "House Power".

    1.6.4   All electrical cables within the facilities are installed for the specific purpose; thus, no cables may be used without the approval of TSDC Operations or facility manager.

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      1.6.6   Electrical cable requirements for new equipment must be given to the data center lead before implementation. The TSDC Operations or facility manager must coordinate with F&S for installation of new power sources.

1.6.7   Power strips that are not data center approved will not be used in the data center and critical facilities. Customers are expected to use TSDC provided PDUs. The only exception to this will be in a case of emergency that requires equipment to be brought into service before a permanent power source can be installed. In such instance, the power strip must be tagged, dated and approved by TSDC Operations or facility manager.

1.6.8   Secondary (standalone) uninterruptible power supplies (UPS's) are not to be installed within the data center without approval by TSDC Operations.

1.7 Documentation and Labeling

1.7.1   Sufficient documentation must be maintained to facilitate the timely resolution of problems in the facilities.

1.7.2   All equipment and servers must be labeled with legibly and in a manner consistent for all facilities.

1.7.3   All rack and power strip equipment must have labels affixed that identify the circuit and power distribution unit to which each is attached.

1.7.4   All main power feeder cables must be labeled and identified as to specific use, as well as the amperage, voltage, type, connector, grid location of either end (if applicable) and length of the cable.

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1.7.5   Each branch circuit and device cable installed within the facility must be labeled with its floor grid location, PDU and circuit number. Identical labels must be affixed at each end of the cable or branch circuit.

1.7.6   When equipment is removed from the facility, all pertinent documents must be updated by TSDC Operations immediately.

1.8   Equipment and Cables

1.8.1   Equipment, peripherals and associated cabling in the data center and critical facilities must be installed in accordance with TIA942, and in such manner as to maximize management and the effectiveness of environmental equipment. A color code for Ethernet cables has been established: yellow cat 6 for high speed, purple for cross-over. All cables will be tied or lashed down with either Velcro strip or appropriate tie wrap.

1.8.2   TSDC Operations is responsible for all information technology (IT) and environmental equipment installed in TSDC Operations. TSDC Operations is available to perform or contract the installation of equipment if necessary. If a customer or his/her contractor is authorized by the facility manager to perform installation, this installation will be inspected by the facility manager or his/her delegated data center personnel. Inspection will determine if the installation is compliant with this document and possible other required compliances such as building code, electrical code, and structural integrity. Requests for exception or

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appeals can be sent in writing to the TSDC Operations Manager for review and determination.

1.8.3   All telecommunications cabling in the overhead conveyance system must be run by CIMS or their contractors. No other cabling may be run in the Network Services' tray system without the prior approval of the TSDC Operations or facility manager. Exceptions will be cable trays physically attached to the server cabinets for the sole purpose of running copper cables in and out of the cabinets in a row. Copper cable will not traverse between rows without approval by Operations Manager.

1.8.4   All cables must run in an orderly manner; when turns are required they must be as near to 90 degrees as possible. Cables may not be run diagonally in the sub-floor. Cables may not be run in cold aisles. Where under the floor cable trays exist, all cables will be run in the cable tray and secured with Velcro strips to the copper cable side or fiber cable side depending on the cable type. Electrical and computer cables may run perpendicularly to one another. Telecommunication cables may be run parallel; when cables cross paths, however, they must be run in a perpendicular manner.

1.8.5   All contractors hired to perform work in the data center and critical facilities, including electrical, mechanical and telecommunications contractor, must coordinate their work with the TSDC Operations or facility manager.

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1.8.6   All equipment deliveries to the facilities must be coordinated with the TSDC Operations or facility manager to ensure proper receipt and storage. Each unit ordering equipment will be responsible for the notification and acceptance of the equipment.

1.9   Environmental Cleanliness

1.9.1   All TSDC facilities must receive an annual cleaning both above and below the raised floor (only in raised floor facilities). This will include: cleaning in and around the wiring under the floor; aggressive cleaning of the floor and floor tiles; and dusting of the server racks, including the tops and non-disruptive open areas around the server racks, and surface of equipment within racks. This work must be contracted to a qualified professional data center cleaning service.

1.9.2   Cleaning by the building service worker can be scheduled. All cleaning personnel must receive training from TSDC Operations or facility manager.

1.9.3   Any garbage, packing materials or waste brought into the data center by personnel, or produced because of work within the facility, must be removed the same day unless another agreement has been reached.

1.10   Conduct of Authorized Users

1.10.1   No food or drink is allowed within the data center.

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1.10.2   Unauthorized users may not tamper or interact with equipment or cabinet(s) that belong to another tenant.

1.10.3   Customers who use shared cabinets (co-habiting) will not tamper or interact with other customers' equipment housed in the same cabinet. If a major reconfiguration is required by either co-habituating customer, the work must be coordinated with, and approved by, TSDC Operations or facility manager and co-located tenant.

Technology Services Data Center (TSDC) clients, of Advanced Computation Building (ACB) Room 200 and 202, Henry Admin Building (HAB) Room 49 and 54 and Digital Computer Laboratory (DCL), Room L441, will need to store equipment. The owners of the equipment have a time limit of one week starting from when the equipment is placed in the stored location. TSDC Operations reserves the right to have the client move the equipment before the end of the week time frame.

1.12 Visitors in the Data Center

All visitors, this includes tours, vendors that do not have I-card access must always be accompanied, while in the data center. The only exception will be a list of vendors that clients have designated to be able to be in the data center unaccompanied.