

# CIS Machine Room Use Policy

## 1. Preamble

The Computer and Information Science (CIS) department at the University of Oregon (UO) maintains a computer machine room in their building (Deschutes Hall) that houses all CIS research and educational computing equipment that cannot be placed in individual offices. The primary purpose of maintaining this “in-house” machine room is to facilitate access of CIS faculty and students to easily and quickly change/update, (re)configure, and monitor their research equipment and associated software. This direct access to computing equipment is critical for conducting research in many aspects of Computer Systems that often require a “sandbox” environment to explore new ideas in various areas of computing, networking, and storage. CIS therefore operates its own machine room, since other data centers across the UO campus do not provide direct and flexible access to computing equipment that they host.

In order to partially cover the costs of operating and supporting this machine room, CIS consistently charges a fee, called the machine room access (MRA) fee, for individual pieces of equipment that are housed/placed in this facility. The MRA fee is primarily calculated based on allocated space to each piece of equipment, in order to comply with federal and other guidelines.

This document describes: 1) basic information about the CIS machine room, 2) the eligibility to access the machine room, 3) the procedures for calculating and charging the MRA fee, and 4) CIS-provided services and acceptable use.

## 2. Description of Resource and Offered Services

The CIS machine room is located on the 3<sup>rd</sup> floor of Deschutes Hall. The room is comprised of fifteen 2-meter racks. Each rack can accommodate up to 42 rack-mounted computing units (roughly 10 to 40 computers) by providing network access, uninterruptible power supply (UPS) and proper cooling systems. CIS also provides designated technical staff to support CIS researchers in managing their equipment and addressing certain problems with the services offered in the machine room. CIS staff, namely the DGA, provides support by periodically assessing and charging the MRA fee associated with individual projects.

Thirteen of the racks (86.67%) are devoted to housing equipment for funded research projects (hereafter referred to as Research Machine Room [RMR]). The other 2 racks (13.33%) in the same physical space are not part of the RMR service center and are reserved for teaching and other departmental services that are available to all CIS faculty and students at no charge (hereafter referred to as Teaching Machine Room [TMR]).

## 3. Eligibility of Access & Space Allocation

The RMR only houses equipment that is owned, managed, and utilized by CIS faculty member or centers/institutes that are associated with the CIS department (hereafter referred to as CIS centers). Furthermore, access to the CIS machine room is limited only to designated members of the CIS department who are managing the equipment in the machine room.

CIS ensures equitable access among the CIS faculty to the RMR by enforcing the following rules:

- 1) While excess rack space is available, individual faculty can request and utilize as much rack space as they need.
- 2) Once the available rack space is limited (or fully utilized), CIS enforces a fair allocation of rack space among all eligible users. More specifically, i) only requests for new space are accepted from users who currently utilize less than their fair share (i.e., available space, divided by the number of active users), ii) each user can request more space up to his/her fair share, iii) users who utilize more than their fair share of space are required to free up some space (proportional with their excess usage) to accommodate a new request.
- 3) Users are advised to submit any requests for new space at least one term (3 months) ahead of time and preferably as soon as the need for rack space is known (e.g., when they are submitting a proposal that includes equipment to be housed in the RMR)
- 4) When users are asked to free up space, they are given at least 3 months to move their equipment out of RMR.
- 5) Individual CIS faculty who are affiliated with one (or more) CIS center(s) only receive “a single share” of the rack space in the RMR; i.e., they cannot request a share of rack space for themselves and a separate share for their center.
- 6) Individual CIS faculty can only use their allocated space to place the equipment that is used for their research projects at UO.
- 7) A CIS faculty cannot offer his/her own share of space to another CIS faculty or any other entity.
- 8) Affiliated faculty are eligible to request and receive space in the machine room. However, their requests have lower priority than regular faculty and are only accommodated (with department head discretion) when excess space is available.

#### **4. Annual Estimation of the Fee Rate**

CIS aims to operate the RMR in a largely cost-neutral manner. Each year, the anticipated annual cost of operating the entire machine room is divided by the estimated usage of rack space to determine the annual (quarterly-charged) fee for using a unit of rack space in the RMR for each quarter of the next operation/service fiscal year (July 1-June 30). The resulting fee remains unchanged across four quarters in each fiscal year. The fee is set annually between CIS and Budget and Resource Planning (BRP), in keeping with the UO policy titled “Special Fees, Fines, Penalties, Service Charges” (<https://policies.uoregon.edu/special-fees-fines-penalties-service-charges>). This fee is subject to review and approval by BRP annually after actual RMR costs are calculated, and fees must be posted to the University fee book. In the event that the approval process changes, CIS will be responsible for following the new approval process.

**4.a. Estimating Operating Costs:** Each spring, CIS calculates the anticipated annual operating costs of the machine room for the next fiscal year by adding the following expenses:

- 1) Depreciation on equipment (each item having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds \$5,000)<sup>1</sup>. As equipment is replaced, the associated depreciation can be included in the service center rate.
- 2) Supplies, including equipment, which have a per-unit acquisition cost of less than \$5,000<sup>1</sup>.
- 3) Software licensing.
- 4) Pro-rated salaries of system staff for providing technical support for RMR, and
- 5) Pro-rated salary of the CIS DGA for administrative bookkeeping and charging the fees through JV documentation preparation.

The MRA fees follow a “fixed with carry-forward” basis. The fixed amount for the fiscal year is not subject to adjustment within that year. Instead, when actual RMR costs are calculated each year, the difference between the previous BRP-approved fee amount and recalculated RMR costs will be carried forward and used as an adjustment to the fee rate for the next fiscal year, in keeping with 2 CFR 200, Appendix V.

**4.b. Surpluses and Deficits:** For an end-of-year surplus, a working capital reserve of no more than 60 calendar days of RMR operating expenses will be allowed, per Uniform Guidance and OUS 05.713, computed as of the close of period 12. Where surpluses exceed this amount, the fee rate must be reduced accordingly in the next fiscal year calculation and approval with BRP.

For anticipated deficits, the following procedures apply:

- 1) If the deficit is equal to 5% or less of the allowed 60-day working capital reserve, the fee in the subsequent year must be increased;
- 2) If the deficit is greater than 5% of the allowed 60-day working capital reserve, a transfer of departmental funds must be made before year end to bring the deficit to within 5% of the allowed 60-day working capital reserve and the fee rate increased according to procedure

CIS must retain MRA fee calculations, plans, and related documentation used as a basis for claiming costs under sponsored awards for the purposes of audit in accordance with the records retention requirements contained in Subpart D of Uniform Guidance.

**4.c. Estimating Quarterly Fee for Each User:** The process of estimating the usage of rack space for the next year consists of the following steps:

- 1) Each Spring term, CIS will report a summary of current rack space utilization and the breakdown of operating costs of the RMR for the coming year to all CIS faculty.
- 2) This notification will also request individual CIS faculty to provide the following information about each piece of equipment they plan to place in the RMR for the coming year within two weeks:

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<sup>1</sup> As defined in Uniform Guidance, 2 CFR 200.1 Definitions. Note: none of the equipment that is currently in the service center (as of April 2021) is eligible for depreciation.

- **Equipment Information:** Specific information (type, model, serial number, required units of rack space<sup>2</sup>) for each piece of equipment.
- **New/Existing:** whether the equipment is a new addition or already in the RMR.
- **Location:** For existing equipment, specify the location (rack and slot number) where the equipment is located.
- **Quarter of Usage:** The specific quarters (Fall, Winter, Spring and Summer) which the equipment will be housed in the RMR. Placing an equipment for part of a quarter is allowed only when the funding source starts/ends during that quarter.
- **Supporting Funds:** The fund(s) that should be charged the MRA fee for each piece of equipment in each quarter.

CIS verifies whether the supporting funds are (1) active for the specified quarter and (2) have a sufficient amount of eligible funds to cover the required MRA fees. The requested rack space may result in reducing the allocated space to users who have more than their fair share.

Finally, the annual fee per unit of rack space for the next year is calculated by dividing the estimated operating expenses (4.a) by the aggregated usage of rack space by all users (after any adjustment). The quarterly fee per unit of rack space is simply one quarter of the annual fee.

The calculated fee along with its calculation are reported to CIS faculty who had indicated interest in using the RMR. Individually, faculty have one week to review this information and explicitly confirm their stated plan for placing each piece of equipment (stated in 4.c.2) in the RMR during each quarter of the coming year. CIS uses these confirmations to produce a full *payment schedule* per quarter that shows (i) housed equipment per faculty per quarter, (ii) the total fee to be paid for these pieces of equipment per quarter, and (iii) funds that cover the associated fees.

A PI is allowed to use different funds to cover MRA fee of a piece of equipment in different terms. For example, a PI may rely on an NSF award to pay the MRA fee for a server during the Fall, Winter and the first half of the Spring term. They can then use startup fund (or ASA or ICC) to pay the connection fee of the same server for the rest of Spring and Summer term.

PIs are responsible for providing the requested information before the specified deadline and checking the availability of sufficient eligible funds in the provided accounts. CIS is not responsible for any delay in the processing of requests due to incorrect information from PIs that may lead to the disruption of access to the corresponding equipment in the RMR.

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<sup>2</sup> Equipment that has high power consumption (e.g., servers with GPUs) may require more rack space than they physically occupy in order to accommodate proper ventilation or meet the total power limit of the rack. In such cases, the charged MRA fee is based on the allocated (not occupied) space for the equipment.

## 5. Quarterly Charging of the Fee

The MRA fee is charged once per quarter. At the end of each quarter, the CIS DGA executes a JV in Banner to charge the MRA fee for each equipment. The JV follows UO standards for charging and include the following information:

- 1) Item/service description as “MRA fees”
- 2) Number of rack spaces used
- 3) BRP-approved MRA fee per rack space per quarter
- 4) Start and end of the corresponding quarter

SPS post-award will have two weeks to review and verify the JV requests, including requesting information and clarification as needed. Once verified in the two-week window, SPS will charge the appropriate funds/indexes.

## 6. Departmental Support

CIS covers the MRA fee in the following cases:

- **Grace Period:** All fee-paying equipment that is housed in the RMR for a year collects 2 months of credit (called grace period) to use the machine room while CIS covers the MRA fee. The grace period is associated with specific equipment (cannot be transferred between different equipment) and can be accumulated for up to three years. The grace period automatically starts as soon as the availability of supporting fund for an equipment ends. The grace period is intended to facilitate any funding gap in support of equipment at the RMR. *The grace period is only offered to faculty whose research awards are administrated through (and their indirect funds are collected by) the CIS department.*
- **Startup Funds:** CIS covers the MRA fee for any equipment owned by junior faculty if it meets all the following conditions: (i) it is purchased with a startup fund (in the first five years after a faculty joins the department) and placed in the RMR, and (ii) no MRA fee is provisioned for the equipment in the startup fund.

## 7. Special Considerations

PIs are responsible for providing the requested information before the specified deadline. Any delays by the PI beyond the specified deadline may lead to the disruption of their access to the corresponding equipment in the RMR as well as the need to find non-sponsored funds to cover costs that could not be posted to sponsored awards in a timely manner. In particular, if the department misses the deadline for the invoice processing and cannot charge the quarterly fee on the associated fund because of the late response by the PI, the PI is responsible to pay the fee from other sources (e.g. ICC, ASA).

For any sponsored funding source where the final invoice date has already passed prior to the JV processing, for projects with closeout timelines prohibiting any further expenses, or for any disallowed charge, the fees will not be charged to that sponsored project. The amount owed by that sponsored project will need to be paid by a non-sponsored source available to the faculty member, CIS or the user's department. The fees cannot be waived.

## **8. Budgeting the MRA Fee**

When individual PIs prepare a research proposal (or any other type of request for funding, e.g., unrestricted gifts, etc.), they should determine whether their planned research activities would require (either existing or new) computing equipment to be placed in the RMR. The PIs should explicitly express their specific needs for rack space in the RMR to the CIS DGA (and CIS Systems staff) in writing while they prepare their budget. Any proposal that requires use of the RMR resources should include a budget line item for MRA fees (based on the current and projected rates) proportional to its anticipated rack space. [QQQ. What should this cost item be labeled as in the grant proposal request??]

Sponsored awards that do not include an approved budget item for the MRA fees or are unable to cover the MRA fees cannot be used to support the RMR resources. In these cases, the PIs may have less flexibility as they need to rely on other funds (e.g., ICC, ASA, unrestricted gifts, etc.) to cover MRA fees for their equipment.

## **9. Bookkeeping & Reporting**

The estimated operating costs and total usage, as well as the calculated rate of the connection fee is annually reported to SPS for their approval. SPS has two weeks to review and approve or indicate any violation of this policy.

The CIS DGA maintains a spreadsheet that contains the following information for individual pieces of equipment in the RMR per quarter:

- 1) Type, model, serial number
- 2) Location: rack ID and slot ID(s)
- 3) The CIS faculty member that owns and operates the equipment
- 4) The starting date when the equipment was added to the RMR
- 5) The amount of MRA fee that is charged for the equipment per quarter.

This information will be reported to Sponsored Projects Services (SPS) or other related offices at UO for their review upon request.

## **10. Service Center Index**

CIS has created a service center index. All related expenses and income from fees will be placed in this account going forward. Only costs that hit the service center index will be eligible to be included in the rate going forward. All future equipment purchases will occur through this account in order to enable the inclusion of depreciation in the rate as current equipment is replaced and to exclude these costs from the university's future F&A rate calculations.

## **11. Termination of Service**

Two weeks prior to the start of each quarter, CIS will examine whether there is a supporting fund associated with each piece of equipment in the machine room. The owner of any equipment without a confirmed source of support will be notified to provide

an eligible fund in support of their equipment. Any unsupported equipment will be unplugged and removed within two weeks.

## **12. Rules and Regulations for Using the RMR**

The PIs (and designated personnel) who own and operate equipment in the RMR will receive an annual email that summarizes the rules and regulations for using the RMR. Each PI should carefully review this email and acknowledge their willingness to follow these rules in their response.

The rules and regulations for using RMR resources include the following:

- Each piece of equipment is assigned a specific set of slots within a given rack by the CIS Systems staff and should be placed in the specified space.
- Each piece of equipment in the RMR should be utilized for activities associated with the CIS faculty and their research projects. For example, a CIS faculty cannot place a server in the RMR and cover its MRA fees in order to facilitate research by parties outside the CIS.
- Each piece of equipment should have 1 or 2 designated CIS members who have exclusive access to the equipment and are responsible for its management. The name and email of the designated individuals will be reported to CIS Systems staff before placing any equipment in the RMR and should be annually updated by the owner of the equipment.
- CIS Systems staff should be notified about any planned additions, modifications, removal/replacing equipment, any change in power requirements, wiring, network connectivity, etc. at least one week ahead of planned activity. CIS Systems staff must review and approve any such plans before it is executed.
- Designated personnel are not allowed to access or request any changes in areas of the RMR where their equipment is not located.
- The owner of each piece of equipment is responsible to pay their stated quarterly MRA fees at the end of each quarter. Any outstanding balances should be paid within two weeks. Otherwise, the equipment will be unplugged by the Systems staff.
- Designated personnel are responsible to remove any unplugged equipment within two weeks after it is unplugged. Otherwise, the equipment will be removed and recycled.
- Designated personnel should be responsive (and act on) any request and notification from the CIS System staff in a timely manner. For example they might be asked to consolidate their allocated space or move their equipment in order to accommodate other users.
- CIS reserves the right to revoke the access of individual users of the RMR and remove their equipment from the RMR if they violate these rules and regulations.

## **13. Revisions to This Policy**

This MOU is subject to review and revision in the event that that federal or university policies and procedures change. Sponsored Projects Services (SPS) may also annually review this policy. Barring reviews driven by regulatory changes, these reviews should

