

Rack Mounted Device Hosting

December 30, 2014

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1. Rate

per month/\$50 per unit
\$1,500 per Cabinet

2. General Overview:

The purpose of the OCIO Core Data Center (CDC) is to provide a reliable and professionally managed environment for State of Nebraska servers and related equipment. The CDC is offered as a shared service by pooling resources to provide a first class data center environment. The cost of the service is recovered by leasing space to participating State agencies, boards and commissions or political subdivisions. The value of this service includes improved efficiency, reliability, security, scalability, and manageability of State servers.

3. Service Description:

Core Data Center space is leased per Rack Unit (often referred to as “per RU” or just “per U”). A rack unit space is 19 inches wide by 1.75 inches high. Rack mounted servers generally come in one, two, or four RU sizes, although that can vary. A complete server rack (cabinet) may be leased with 32 rack units dedicated to server space. Some agencies submit a requirement of several adjacent racks, and with enough advance notice this has been possible.

Customers can reduce costs by pooling resources, particularly for power and networking needs, but also by taking advantage of economies of scale in purchasing physical data center components, and by utilizing the OCIO BICSI certified installation and maintenance of the infrastructure. These are needs which participating State agencies, Boards and Commissions or political sub-divisions can offload to the OCIO; possibly well beyond their own in-house capabilities, facilities, or expertise, while they concentrate on core business functions. This service compares very favorably to commercially available hosting solutions, especially once bandwidth costs or the amount of data transferred is taken into consideration. The OCIO does not impose any surcharge for servers passing large amounts of data through the Core Data Center to the internet, as is typical with for-profit hosting facilities.

4. Roles and Responsibilities:

The OCIO will be responsible for maintaining the physical Core Data Center features as detailed above. The OCIO will be responsible for maintaining the physical and logical networking required to accommodate client servers and equipment.

Clients will be responsible for their equipment below 33U in each rack, including the physical servers, their operating systems, application software, and so forth.

5. Requesting Service

Requests are made using the Help Desk Ticketing system. Contact the OCIO Help Desk at 402-471-4636 or by email at cio.help@nebraska.gov.

6. Billing Information

Current rate information is available at: <http://its.ne.gov/sla/>. The rate covers the cost of server racks, building rental, power, climate control, networking equipment, security, KVM, change management, and oversight of industry standards and compliance.

The Office of the CIO uses a system of Job Codes and Work Orders for authorizing work and tracking costs for specific projects. The customer may designate which job code and work order numbers to use or request new job code and work order numbers. Contact the Office of the CIO for assistance with developing an accounting structure that meets the needs of the agency.

7. Service Hours, Response Times and Escalation:

The CDC is designed and committed to 7 x 24 operation. Authorized clientele will have 7 x 24 hour access to their servers. They may gain entry to the CDC with an electronic access card combined with a successful fingerprint scan. Access to the CDC requires prior authorization and is limited to individuals who need physical access to the agency's servers. Inside the CDC all server racks remain locked and under surveillance by security cameras. Authorized personnel can gain access to their assigned server rack(s) by entering a PIN number into a keypad, and the appropriate rack(s) will be unlocked.

The PIN number may be specified by the agency leasing rack space. In those instances where physical access to a server is unnecessary, the OCIO provides remote Keyboard/Video/Mouse (KVM) access which enables an authorized remote administrator to entirely reconfigure a server at the BIOS level, as well as reload an operating system on a server using the remote workstation CDROM drive. Security considerations for access to the KVM system are the same as those for physical access to the CDC. Those without physical access to the data center will not have KVM access. Those with access to certain servers in the data center will only have KVM access to those same servers.

The CDC has multiple data routes to the downtown Lincoln campus, as well as multiple routes to the internet, all provided by core switches of Internet Service Provider grade and quality. The core switches are configured for fail-over. Any maintenance of Core Data Center infrastructure equipment will be scheduled and will be subject to OCIO Change Management oversight. All maintenance, including electrical work, is designed with the objective of minimizing downtime. As a

further safeguard, there is no provision for clients to modify or improvise any electrical or data connections. All power strips, power distribution units, data switches, KVM equipment, and fiber connections are managed and maintained by the OCIO and the AS -Building Division.

Standard power per rack is supplied by 4 independent circuits, each circuit supplying a 20 outlet power strip. The power strips and the plugs are rated at 15 Amps for a total of 60 Amps per rack as configured. Custom power provisioning for a rack is available at an increased rate, including 208V single or three phase power. Note that some equipment vendors specify 208V power simply for the purpose of ensuring separate circuits and providing battery backup to 110V servers or devices. With CDC Power Distribution Units, batteries, and diesel generators available for power grid backup, vendor recommended 208V UPS equipment is an unnecessary and expensive duplication of functionality. 208V power requests are considered only for end computing devices which actually utilize 208V.

One Ethernet switch is provided per rack. There are 21 ports available, each capable of gigabit per second speeds. Additional switches can be provided at cost, and these also will be supplied and managed by the OCIO. All switches will be installed in the rack space reserved for the OCIO that is beyond the 32U leased capacity of each rack. This means that no server allocated space needs are lost to the client. All switches are connected by fiber to the core infrastructure. Independent and additional fiber connectivity can be arranged at additional cost.

Temperature in the CDC is maintained between 69 to 73 degrees Fahrenheit, and humidity is maintained between 45% and 50% to minimize static discharge. The CDC will be kept clean, with no packaging materials allowed inside the controlled environment due to possible excess creation of dust and the subsequent damage to power supplies, CPUs, and hard drive assemblies. All metal components will be certified as grounded. Data cables will be in overhead racks or trays and power will be supplied under the raised floor. There will be no wet mopping of the floor.

For the sake of providing a completely controlled and well managed environment, client agency additions of computing equipment, or the removal of computing equipment, will be scheduled with the OCIO. OCIO employees will be made available for the assistance and coordination required for installation or uninstallation. Data connections and power connections will be verified. There will be no ad hoc or unknown additions or removal of equipment from the CDC.

With the exception of emergency changes, which are given immediate preference, equipment changes need to be scheduled. Similarly, the OCIO initiated changes will be subject to oversight and Change Management as stated above. Agency contacts will receive notification in these cases. Support is available 7 x 24 at 402-471-4636. During regular hours (7am – 6pm) a support call will be routed by the Help Desk to the appropriate technical team. During off hours the call will go to OCIO

Operations personnel, it will be logged, and on-call members of the OCIO will be notified. The on-call staff will identify the problem and the appropriate people necessary to address the issue.

For further information, please contact:

Office of the CIO Help Desk
cio.help@nebraska.gov
402-471-4636 or 800-982-2468