



North Data Center



Power

N+1	Active capacity components supporting IT load are able to carry the load (N) after the failure of any component.
A&B Circuits	Each cabinet or IT device has two active distribution paths (A&B redundant circuits) available. AC voltages from 120 to 240, single and three phase power are available.
Concurrent Maintenance	All systems are concurrently maintainable (scheduled maintenance will not disrupt service).
Fault Tolerance	All critical systems are single event fault tolerant.
Cabling	All power cabling below floor.
Dual Power	Normal electrical power supplied from campus grid, which is supplied by multiple entrances from Omaha Public Power District.
Generator	Emergency Diesel Generators on campus electrical grid.
PDU	(2) Liebert Precision Power 150kVA 480V 120-208V PDU.
UPS	(2) 150kVA Liebert Uninterruptible Power Supply (UPS) units are installed in the Data Center. UPS has 80 sealed gel-cell batteries and individual battery monitoring.

Raised Floor

Total Raised	2300 square feet (1400 sq ft Server Room / 900 sq ft Console/UPS Room).
Air Quality	Air temperature under the floor delivered at an average of 68 degrees and 45% humidity.
Continuous Cooling	(2) 30 ton Liebert Air Cooled Computer Room A/C Units and (2) 15 ton Liebert Air Cooled Computer Room A/C Units.
Fire Suppression	Dry pipe sprinkler system with smoke and heat sensors.
Floor Height	16"

Ceiling Height	7'8" +/- ceiling height above raised floor.
Floor Tiles	AS1250 lb rated system with a bolted-stringered system
Monitoring	Liebert Sitescan is used to monitor and control Liebert precision cooling, power, UPS, leak detection, control panels and other critical equipment. Alber is used for battery monitoring.
Water Detection	Water detection system install throughout data center

Physical Security

Data Center Access	IT Security Procedures exist for access to Data Centers, Tape Vault, Switch Rooms and Network Closets. Card access required for ITS area and Data Center. All non-Data Center employees have to use a phone mounted outside the data center for access and are required to record their entry/exit in a log book.
Electronic Tracking	Interior doors have magnetic locks requiring pre-programmed security badges which limit access to all security zones.
Security	Campus provides 24x7 security. Interior doors are secured by means of mechanical and/or electronic locking mechanisms.
Video Tracking	Movement within the data center and adjacent hallways is monitored and automatically recorded with DVR system.

7 x 24 Support

Monitoring	Data Center Operations is staffed 7x24 to execute batch, monitor, track and report on alerts, incidents and key events. Documented escalation procedures exist for all systems. Multiple application specific monitoring tools are used.
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Network

Internet Access	Multiple major carriers provide Internet access with redundant diverse paths to both the Internet and Internet 2.
Internal Cabling	Access to private and public networks and Internet connectivity is delivered using cable management trays.
Fiber Entrances	Diverse, redundant underground entrances.
Infrastructure	Fully redundant Carrier-Class Cisco core routing and switching equipment with Server Load Balancing (SLB) and Global SLB in both North and South Data Centers.
Monitoring	All infrastructure components are actively monitored using SNMP Management Tools: WhatsUp Gold, NetMRI, CiscoWorks, Statseeker as well as custom developed tools.
Services	Critical network services such as DNS, DHCP, and Authentication are offered in a high-availability configuration across all three data-centers.
Network	Private 10 Gbps back-bone throughout UNMC's Network Core, North and South Data Centers and Private Gbps back-bone in and to the CSN DR Data Center.
Security	Multivendor products for internet firewalls, Intrusion Protection and remote access provides seamless access and protection for all critical services.
ARIN IP Addresses	UNMC's IP management enables seamless routing between multiple Internet/Internet 2 providers insuring the highest quality route performance and availability.

Data Center Facility

Building	Located on the first floor of Clarkson Hospital.
Construction	Standard hospital construction.
Data Center Entrance	Main entrance ramp to accommodate ADA and equipment installation (stairs at other entry / exit points).
Receiving	4000 lbs rated freight elevators.
Receiving Docks	Loading docks for all sized vehicles.
Other	
Service Management	Incident, Problem, Release and Change Management procedures are followed using in-house developed tools.
Governance	
Compliant	HIPAA/HITECH, GLBA, PCI, FERPA, HEA, FTC, FDA, Medicare Conditions of Participation, JCAHO
Recognition	
Regional	AIM Institute CIO of the Year 2006