

PROCEDURE 2.16.4: NETWORK INFRASTRUCTURE

To provide an optimum network/server infrastructure to all faculty, staff and students, follow the standards outlined below.

General principles

- Campus network infrastructure across the district is maintained by Technology Services.
- All necessary network infrastructure components, including wiring, switches, routers and more, are funded centrally.
- The terms of this procedure cover all wiring and electronic devices from the wall outlet inward to the campus core network, as well as certain devices outside of the wall-outlet-to-core region (e.g., external internet connections).
- The terms of this procedure cover all servers, software and technology contractual services across the district.
- The college periodically reviews this procedure to ensure current best industry practices are followed.

Wiring

- Wiring installation and maintenance is the sole responsibility of Technology Services and can't be installed by faculty, staff or students. Wiring can't be installed by third-party contractors hired by any department without the express consent of, and under the direct supervision of, Technology Services.
- All new wiring installations will use the most current category of wiring to each location, and existing wire will be reused, where possible, and brought into full compliance.
- All wiring will be certified as compliant as it's installed or reworked and will use industry standard patch panel termination in wiring closets, industry standard wall outlets, and all wiring will be properly labeled.
- In addition to the main distribution frame (MDF), intermediate distribution frames (IDF) are located throughout the campus. Given the critical nature of the equipment located in these areas, this space must be dedicated for use by data communications and telephone equipment. The space can't be used for housekeeping, storage space or for any other use. Dedicated, secure communications closets are critical to the physical security of the campus network.
- Requests for assistance with the setup and use of PCs or other workstations should be directed to Tech Help at support@sandburg.edu or 309.341.5446.

Connections provided

- All data outlets will provide switched ethernet to the end user.
- Gigabit ethernet links (or latest technology) will be provided from wiring closet switches to central building switches, which then go to a central, divisional network switch or router. Additional fiber-optic cable has been installed as necessary to provide these inter- and intra-building links.
- A Gigabit ethernet link (or latest technology) will be provided from the divisional network switch or router to the campus backbone switch/router via the college's fiber-optic cable plant.
- Future infrastructure upgrades will be implemented when new technologies become available and/or when the lifecycle of the current equipment comes to an end.

Monitoring and repair of defective components

- Technology Services monitors all routers, switches and other active network infrastructure components, which allows for quick problem detection and repair or replacement of failing devices.
- Report all network infrastructure problems to the Help Desk at 309.341.5446 or support@sandburg.edu during normal business hours.

Device connections

- Users aren't allowed to install switches, hubs, routers, or any other active or passive network device.
- No device may be connected that presents itself as multiple, concurrent IP addresses without the express consent of Technology Services. This includes, but isn't limited to, routers, switches, hubs and wireless access points.
- Users can't contract with any external entity to install network devices without the knowledge of Technology Services.
- Users may not attach any servers to the network.
- All area networks will be directly attached to the area core router or switch. No devices such as Microsoft Windows servers or workstations, or UNIX/LINUX machines will be allowed to route or bridge network packets.
- No traffic will be routed outside of the area except for IP packets. Other protocols (e.g., AppleTalk), won't be routed onto the campus backbone network.
- Connections can't be made to any agency outside the division without the express consent of Technology Services due to the high potential risk for security problems. This restriction

applies to connections to commercial enterprises such as internet service providers (ISPs) and other providers who would need direct access to the college network.

Telecommunications

- All moves/adds and changes of telephones and related communication equipment is handled by Technology Services.
- Issues related to telephones and related communication devices should be reported to Technology Services.

Distance learning, audio-visual and document-management equipment

- All distance learning, and audio-visual and document-management equipment is purchased, maintained and upgraded by Technology Services in collaboration with the copy center staff.

Computers, printers and related technology equipment

- All computers, printers and related technology equipment across the college district are purchased in cooperation with Technology Services according to the technology standards established by the college and maintained by Technology Services. Issues related to technology equipment should be reported to Technology Services through the Help Desk.
- All software purchases across the district are purchased in collaboration with Technology Services. Technology Services maintains a centralized license archive of all software licenses and contracts for the entire institution.

Related services

- Technology Services is responsible for internet protocol (IP) address management via dynamic host configuration protocol (DHCP) with static IP addresses assigned as necessary for such things as file servers.
- Technology Services will attempt to satisfy all requests for special network topologies needed for research or teaching. This may involve the construction of a private network or the implementation of a virtual local area networks (VLAN).
- Creation/deletion and maintenance of user accounts for faculty, staff and students are the sole responsibility of Technology Services, Student Development and Human Resources.

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