Purpose and Need

This policy serves to promulgate guidelines and standards pertaining to the hardware installation or upgrade of Information Technology assets to include new construction and renovation efforts. Software application configuration and standardization guidelines can be found under separate policy.

Definitions

None specified

Guiding Principles

The objectives of this policy are to standardize HRSD's server and network infrastructure designs in an effort to:

- Maximize functionality and performance
- Minimize time-to-resolution during troubleshooting efforts
- Facilitate the installation or upgrade process by clearly defining expectations so that rework is minimized

Procedures

- Fiber infrastructure shall be OS2 singlemode unless otherwise specified
- All fiber terminations shall be of the LC type unless otherwise specified. All ends shall be terminated and landed in an industry standard closet connector housing such as Corning LANscape CCH-01U, or equivalent. Such housing must be capable of being fully extended to make any needed repairs. No fiber ends shall be left unterminated. Protective dust caps shall remain in place on all unused connectors
- Copper infrastructure shall consist of CAT 6 cabling with matching patch panels, such as Leviton CAT6 series, or equivalent
- In the case of control network devices, copper patch cables shall be green and yellow to denote the primary and secondary network connections, if employed. Business network patch cables shall be blue, management network patch cables shall be white. Patch cables shall be of the snagless type. HRSD's preferred manufacturer is Tripp-Lite
- With either connectivity type (fiber or copper), wire management devices shall be utilized in such a manner as to afford the cleanest and most organized appearance

- All network cables including fiber and copper shall be labeled to identify source switch port, switch name, destination port, and destination name. See labeling standard for additional detail, formatting, etc.
- Servers, switches, and routers shall employ dual power supplies, where available, and connected to separate dedicated UPS' fed by separate circuits
- If dual power supplies are not available, automatic transfer switches (ATS) fed by separate dedicated circuits shall be utilized
- Servers shall be manufactured by Cisco unless an issue is identified that can only be resolved by selecting another vendor
- Switches, routers, and other active components making up the network infrastructure shall be manufactured by Cisco, be no less than five (5) years to end of life (EOL) and be capable of remote management. Under no circumstances shall a non-Cisco device or otherwise unmanaged network device be employed for any purpose, unless specifically approved or specified by ITD
- All server and network hardware shall be rack mounted and securely fastened using the hardware recommended by the manufacturer, including the quantity (all mounting provisions within reason shall be utilized). All systems shall have a 2U space above and below them
- Servers shall employ wire managers or other equivalent hardware to allow for their full extension away from the rack on their rails so that maintenance can be performed when needed without disconnecting power, network, etc.
- All server and network hardware shall be labeled to clearly identify its purpose. See labeling standard for additional detail, formatting, etc.
- All active components (servers, switches, routers, etc.) shall be left deenergized until the space they occupy is reasonably clean and free of construction activity
- The use of media converters and other extraneous hardware shall be kept to the absolute minimum required to complete the design. In those cases where media converters must be used, they shall be mounted in a dedicated powered rack supplied by the manufacturer. If this arrangement is not practical, they shall be securely and neatly fastened to a rigid shelf mounted in the equipment cabinet. Wiring for the media converter shall be routed and secured to afford the cleanest and most organized appearance. Like other network devices, the media converters shall be labeled to indicate their intended purpose. See labeling standard for additional details, formatting, etc. Where possible, media converters shall employ an SFP slot to both provide for an LC connection, as specified within this standard, and offer flexibility with different fiber types
- All Software, Hardware, licensing, service contracts, and other deliverables shall be purchased through a vendor approved reseller with HRSD being the registered owner

Responsibility and Authority

The Director of IT Operations is responsible for the periodic update of this policy.