

Position No. 81894

Attachment A

9. Duties and responsibilities:

This is advanced professional work primarily in support of data communications, networking and client/server technology used in the University of Hawaii at Manoa Library (Hamilton Library and Sinclair Library). The position is responsible for administering, maintaining, upgrading and enhancing wiring infrastructure, data communications devices, networking equipment, servers, environmental monitoring and control equipment and related devices housed in the Library computer facility and wiring closets. In addition this position works in a collaborative team environment with other technical and professional staff within and without the unit to support internet/world wide web connectivity, library services and processing operations.

Work in the unit involves designing, planning, troubleshooting, coordinating, scheduling and participating in ongoing installation, administration, maintenance, and expansion of a complex library networking and distributed computing environment. Tasks include substantial high-level participation in the help desk operation (which supports students and faculty accessing information resources, library staff performing service, processing and office operations, and faculty using library classroom facilities). Work also includes providing system administration support for 9 or more Windows and Unix-based servers, including the library web page server and proxy server.

Work entails consultation and coordination with departmental IT and Librarian professionals, utilization of a variety of specialized skills and requires advanced knowledge in the areas of data communications, networking and client/server technology. Work involves consultation with library administrators, faculty and staff, and coordination with other UH data and telecommunications and desktop computing staff and agencies. Work requires analysis of user needs and extensive investigation of appropriate technologies to meet those needs; ability to apply results of analysis to design, configure and optimize datacomm infrastructure to meet ongoing and changing requirements. Work is performed under general administrative direction with independent initiative and judgement. Supervision received is minimal and non-specific. Work is reviewed through observation of results and reports.

Examples of the kinds of infrastructure, equipment and software involved in the position's activities are: data communications circuits, copper and fiber optic cabling systems, computer facility environmental control and monitoring equipment, network routers (Cisco in particular), modems, data communications test equipment, UNIX and Windows NT and Windows2000 servers, Windows 9x and NT and Macintosh computer workstations, networked printers; network and server OS and administration software, datacomm equipment configuration and testing software, workstation software, and other equipment and software related to the activities listed below.

1. Oversees network and server infrastructure and equipment. Creates policies and procedures for backing 20% critical data. Performs or directs maintenance, troubleshooting, testing, parts exchanges, local and factory rep: of an extensive array of data communications equipment, using considerable specialized knowledge, to service and reference manuals, and vendor technical support services to insure continuous infrastructure : equipment availability. Resolves complex data communications and equipment problems by collaborating w library administrators, faculty and staff, other specialists, technicians and vendors and by applying considera knowledge of the limitations, capabilities, uses and service requirements of equipment and software.
2. Manages, operates, administers computing services comprised of NT/Windows2000 and Unix servers, : 15% Ethernet network supporting over 300 nodes. Supports staff in maintaining data communications connections: library management system, World Wide Web, CD-ROM servers, networked printers.
3. Plans, organizes, and directs complex projects involving data communications infrastructure and networki 15% based on analysis of user needs and consultation with librarian faculty department head and libr administrators. Projects may include redesign of networking infrastructure and application of new network technologies to existing, remodeled and new library buildings. Such projects require extensive research i available technologies and determining applicability to user needs. Information is gathered using printed : online sources of information and communicating with vendors and specialists in other agencies. Prep: analyses, recommendations, briefings, reports and diagrams to explain projects to administrators, library facu and staff.

4. Researches the latest technology, trends, methods, and equipment used in data communications, networki 15%
client/server and desktop computing by reading journals, books and online information sources, and by consult
with vendors and other professionals in the networking and computing industries in order to advise libr
administrators and other library computing professionals regarding new developments and their potential
improving library services and operations. Recommends and plans the best methods, techniques, and procedu
to achieve the most effective use of available networking and desktop computing resources. Condu
performance analysis and capacity planning of data communications circuits and cabling systems. Modif
reconfigures, reprograms or upgrades existing equipment and software to improve or change functions perform
Develops monitoring programs and utilities to increase efficiency and reliability of equipment by using
adapting available products and materials. Develops, recommends, enforces and revises standards and procedu
used in data communications, networking, server management and desktop computing operations.
5. Advises the library fiscal officer in matters related to the procurement of technical systems and services. Prep 10%
written technical specifications for invitation for bid (IFB) and request for proposal (RFP) documents relatec
networking and computing. Reviews and approves library Telecom action requests to ITS as library Telec
Coordinator. Determines specifications for equipment maintenance contracts and coordinates the fulfillment
those contracts and equipment warranties by communicating with vendors and fiscal officers.
6. Participates in the department help desk operation including monitoring to insure quality service. Supp 10%
Hamilton Library and Sinclair Library faculty, staff and library users by analyzing, planning, coordinating ;
implementing help desk troubleshooting and problem resolution services. Prepares written reports of help d
operations and other support activities on a regular basis for review by the department head (a librarian fact
position).
7. Writes programs or scripts to facilitate the functioning of networks, equipment and software using languages st 10%
as Visual Basic, HTML, Perl, JavaScript, SQL, and operating systems such as Solaris (UNI
WindowsNT/2000. Creates databases and spreadsheets to facilitate department operations. Plans, designs ;
implements department knowledge-base systems using Windows, Microsoft, SQL or other database developm
tools.
8. Trains or participates in the training of library staff to use a wide variety of microcomputer equipment ; 5%
software. Evaluates software performance in consultation with users.
9. Performs other duties as assigned.

12. List equipment that is critical to work performance

a. Servers:

Sun web server, Solaris and Linux OS
Microsoft NT and Windows2000 server
CD-ROM server

b. Computer Workstations:

Intel Windows microcomputer
Macintosh microcomputer
Sun server console

c. Storage devices:

CD-ROM drive and jukebox
Floppy disk drive
Hard disk drive
Magneto optical drive
Tape drive, ZIP drive

d. Other equipment:

Network router (esp. Cisco)
Ethernet switch
Bridge
Hub/Repeater
Modem

e. Peripherals:

Laser printer
Inkjet printer
Dot matrix printer
Barcode readers
Scanners

13. Describe the nature and extent of instructions received or guidelines available for performance ...

Instructions are provided through discussion with department head, collaboration with department information technology and librarian staff, library administrators, faculty and staff, and cooperation with other UH data and telecommunications and computing staff and agencies. Work is performed under general administrative direction with independent initiative and judgement.

14. Describe the nature and extent of the review of work.

Supervision received is minimal and general. Work is reviewed through observation of results and written reports.

15. Contacts with units...

The position works closely with administrators, faculty and staff in other library departments in Hamilton Library and Sinclair Library in order to ascertain their networking and connectivity needs and propose advanced networking and computing solutions. The position works indirectly with all campus libraries in the UH System and several state and private libraries to enable and troubleshoot their network connections to the library management system servers in Hamilton Library. The position works with UH Information Technology Services (ITS) networking, computing and telecom units to enlist their support for and participation in library networking and computing projects and to insure that the library uses technologies that are compatible with ITS strategic goals.

17. Minimum Qualification Requirements...

A. Education:

Graduation from an accredited four-year college or university with major course work in computer science, and other course work in fields related to the programs or systems which are the subject of this position.

B. Experience

1. Years: 3

2. Quality or nature of experience:

Three years of progressively responsible experience in installation, configuration and management of data communication systems and administration of Unix and Windows servers; or any equivalent combination of education and experience which provides the following knowledge, abilities, and skills:

C. Skills, Knowledge, Abilities

Considerable knowledge of the limitations, capabilities, uses, and service requirements of network servers, microcomputers and allied equipment.

Considerable knowledge of computer and datacomm-related scripting languages.

Ability to prepare clear, detailed programs, instructions and documentation.

Ability to plan, lay out, and participate in the work of professional and technical team members.

Ability to establish and maintain effective working relationships with colleagues, program directors and their staffs, faculty, scientific research personnel, and other users of computer services and facilities.

D. Additional minimum qualification requirements...

Considerable knowledge of the design, specification, ordering, installation, configuration, administration, maintenance and repair of data communications equipment, such as routers, Ethernet switches, bridges, hubs, repeaters.

Considerable knowledge of the specification, ordering, installation, configuration, administration and maintenance of client/server software used in Windows NT/2000, Solaris UNIX, Linux, systems.

Experience with, or knowledge of, Windows NT to Windows 2000 server migration.

Considerable knowledge of the specification, ordering, installation, configuration, administration and maintenance of World Wide Web Internet servers, and workstations running the Windows, Macintosh and UNIX/Linux operating systems.

Knowledge of the limitations, capabilities, uses, and service requirements of electronic data communications equipment, including network and peripheral equipment inter-networked in a TCP/IP or related environment.

Knowledge of synchronous, asynchronous, X.25, TCP/IP, FTP, PPP, http, SNMP, Telnet and AppleTalk communications protocols.

Knowledge of Ethernet and Fast Ethernet in a local area networking (LAN) environment.

Knowledge of data communications networking wiring types and methods.

Knowledge of the operation and uses of electronic testing equipment used to maintain data communications networking and computer systems.

Ability to understand and interpret complex diagrams, service and reference manuals and interpret and apply their instructions.

Ability to explain complex technical problems to department information technology specialist(s) and other staff and student assistants.

Ability to communicate effectively both orally and in writing.

Ability to maintain paper files and prepare written documentation of data communications and computing operations; logs of daily activities and reports of projects.

Ability to work evenings and weekends as needed.

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