Network Analysis Worksheet (TBE 550)

Name: Mehmet Larcin

School site: Rio Hondo Community College

Sources of information (people, documents): Paul Ozima (Network Administrator), Information Technology Strategic Plan (document)
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Answer each of the following questions (final copy must be word processed):

Who manages/maintains the network?

      Information Technology Department

What type of network is being used (type of server, network software, connections, layout, etc)?

      Star Network in place.

      File Server, Proxy Server, Web Server, Database Server, Storage Server, Email Server, Access Server. All servers installed in large centralize storage system (SAN) to better management of all servers and applications. All data closets have a cable management system for growth and management of our network connections.

      All network is fitted with fiber-optic cable and Cat 5 network cables. The campus-wide Infrastructure contains the Fiber Cables the technology communications backbone. A generator system is currently installed that will provide critical backup power to the Computer Center's network. A secure campus-wide Wireless is also installed. The network infrastructure provides adequate network pathways telephone and other communications devices to meet the needs of faculty, staff, and students.

      Network Software:
          LANDesk software manages all desktops connected to the network to insure proper updating of security software.

          Emergency Broadcasting System. This is a network managed system that will simultaneously broadcast to speakers, computers and telephones campus-wide.

          Intrusion Detection Systems monitors malicious network traffic that

can impair network operations.

What types of assessments are used to determine the effectiveness of the network (e.g., usage logs, etc.)?

Network Traffic Flow monitored
Intrusion Detection / Intrusion Prevention regularly monitored
IT developed a computer database, inventory and computer effectiveness plan to help determine when a College computers needed to be replaced.
Assess the equipment needs of computer labs which may include the following, but not be limited to a computer, projection device, interactive whiteboard, printer, projection screen, TV, CD-ROM/DVD-ROM drive, speakers, sound recorder and other emerging technologies.
Provide effective and efficient network services for voice, and video technologies by utilizing the rebuilt network infrastructure.

What types of protection are used to prevent viruses, hacking, etc.?

Firewall to provide anti-virus, anti-spam, and anti-spyware capability.
Networking Filtering - network security by filtering different unauthorized user log on.
Intrusion Detection Systems - monitors malicious network traffic that can impair network operations.

What kinds of improvements are suggested?

Server Virtualization: This technology has been available the last ten years and many Fortune 100 companies are now relying on server virtualization. It provide us the ability to combine 10 servers into 1 physical box can save substantially not just on hardware cost, but power and air conditioning needs as well. Virtualization really shine when it comes to backup and redundancy and server malfunctions because other servers can take on the role of the downed server.

Network Upgrade: Plan is to purchase 10 gigabit speed switches which can be used as a single port to connect for both VoIP phone and desktop computers. We plan to upgrade areas of the College with larger concentration of computers to the new speed gradually. Since the price for 10 gigabit switch speeds is still high, we will phase in as the need for higher bandwidth arises.

Virtual Desktop: We are gathering information on how we may create a new computing environment for students. We would like to assign each and every student when they register a virtual desktop computer. This is taking the idea of a personal email account

and expanding it to an entire desktop environment. This is a personal computer they will be able to access from anywhere permissible on campus and possible from off-campus. The virtual desktop computer can be designed to use any lab on campus with physical access. This is a way to assign a computer to each student without having it physically sit in one place.

Annually review personal computers and software to determine if upgrade or replacement in needed.

Implement security measures such as encryption for sensitive data transported using public lines.

Continue to evaluate College's network technologies.