2019 U.S. Information Technology Collegiate Conference Network Design Competition

Do not put your name(s) or your school's name on anything that you submit.
Doing so will result in disqualification of your team.
The only identifying information you should use is your team number.

Your company (company name = "Team + team # + Network Consultants"), has made it to the final cut and the Board of Directors of HowBout-University wants to see a detailed proposal for the complete re-fit and redesign of the HowBout-U campus systems that are heavily dependent on Cisco 8500 series hardware. HowBout-U wants to implement a High Availability Campus network that has a five nines availability to support its user base of students, staff, and faculty.

HowBout-U is going to launch an online division with the completion of the second phase. The details must include costing information and a budget that describes how you are going to meet their requirements along with all hardware, software, subscriptions, and protocols that need to be implemented. The HowBout-U campuses are in their headquarters location in San Diego, CA with satellite locations in San Francisco, CA, Houston, TX, and Singapore. HowBout-U currently houses the main data center in San Diego to provide services for the entire enterprise, including the satellite communications division but would like to reduce costs in the future. The satellite communications division uses over half of the available bandwidth to support the customer base, but would like to lower the bandwidth used by the satellite division. HowBout-U has 15,000 onsite users per site in both San Diego and San Francisco with another 5,000 onsite in Houston with all onsite users using tablet devices The Singapore campus has less than 1,500 onsite users and is the backup data center. The solution must be a phased approach completing the San Diego headquarters first then Singapore, San Francisco and finally Houston. The solution must be sustainable and able to provide as close to maintenance free performance for at least five years with the project to start April 30, 2018. The tablets that students are issued are 1 ½ years old and primarily Android and connect wirelessly to the network. HowBout-U's board recent attended a conference that demonstrated a cloud 24/7/365 hosted platform for College classes that was secure, and they want this part of the solution also. It is a must have for launch also.

The solution provided will need to have the following elements to be considered:

- Realtime video conferencing available online securely

- Secure cloud-based computing

- BYOD capabilities with strong security

- Scalability for rapid increase of online students

- Cost reductions across the enterprise

- Refit of six-year-old existing system

The projected increase of users at launch is over 50,000 new users in the first year to a maximum of 100,000 new users total by year five end. The user base is projected to increase by 3% to 5% per year for each year thereafter over the following 5 years. The system must be available 24/7/365 globally and have good response times.

Detailed costing for ALL hardware, software, cabling, leases and services to satisfy the requirements is essential for your bid to be considered. Detailed information regarding any/all bands, protocols, estimated response times, infrastructure set up, locations or co-locations, or anything related to your solution needs to be fully documented and enclosed to be considered. All documents must have your company name on them.

Any solution that does not provide accurate citing of professional resources will be removed from consideration.

Examples include any of the following:

- Copying and pasting diagrams and images from a website

- Using descriptions and product data verbatim from source

- When in doubt, cite your source

Good Luck!