Customer goals:

Farmingdale State College has begun to renovate 3 builds and upgrade their internet connect to each of these building to make it easier for the students and faculty to obtain the knowledge and the skills required to be competitive in the market place. As the students become the market standard for expectations the university can become known for its education program. The prestige that comes with being the industry standard helps to enroll more students and continue push the college’s …..

The buildings need to be setup to connect 1050 current users and scalable to accommodate 1365 users without over taxing the network infrastructure thus degrading the quality of education Farmingdale State college can provide for its students.

Laffin Hall: 450-585

Nassau Residence: 400-520

Horton Hall: 200-260

Customer constraints:

The overall cost and success of the setup is a major concern, but with an overall budget of 2 million dollars we should be able to get top quality equipment and have everything done in a timely manner so that the buildings are ready for use next session.

We don’t want to disrupt day to day business activities on the campus. Thankfully the buildings themselves are gutted and not currently occupied so that part can be done at any time of the day. The trenching, which is going to tear up the ground, will need to be done before the end of the project. Most of this is in student walkway areas that can be covered with temporary bridges. There will be a small section of roadway that must be dug up to lay the cables. The path we have laid out will only affect a small parking area between Gleeson Hall and Whitman Hall. We will make this the area that gets trenched last and fixed first to minimize the disturbance to students and faculty.

User and administrative applications:

Cloud storage for the student and faculty

Printing services at each of the buildings.

Email server and accounts for each student and faculty member.

Wi-Fi in the lobby of each building and in the class rooms for the convenience students, professors, and visitors.

DHCP services set up in Horton Hall to give out ip addresses to everyone on the intranet.

NAT overload to facilitate connection of all these users to the internet with a limited number of public ip addresses.

Technical goals:

Redundancy without loops

Small failure domains (simplified troubleshooting)

Technical constraints: