EYP Data Center Evaluation - Tom Board
The EYP contract has been finalized and there was a kickoff meeting to discuss moving ahead. EYP will schedule two days for discussions with representatives from the University community to define needs. These discussions will cover administrative computing, facilities, HPC-centric research, non-HPC research, academic teaching, NU Library, large-database requirements, etc. EYP will report back on options with costs by February 1st.

The data center currently takes up about 50% of raised floor area. EYP will look at using some or all of the additional space for the data center. Increasing air conditioning and fire suppression at 2020 Ridge is underway.

Discussion
Moving the mail room will be difficult and costly. It will require a separate study that might delay moving ahead with work at 2020 Ridge.

There are immediate needs that have to be addressed in the next few months. We are assuming that we will have to use 2020 in the short-term. Would off-site options be a quicker solution than expanding the data center? Would it make more sense financially to move directly to an off-site solution? None of the current engagements compare renovation costs with using off-site hosting, space, or services. Off-site solutions must also include the cost of networking, which could be substantial. This type of short-term approach could be part of a more permanent long-term solution.

EYP is in the business of building data centers, not renting them out. Do we need to find a firm that is in this business? Should we rent, buy or build long-term space? Are there newer buildings that could be used for a data center? NU has a real estate firm that might help us identify possible locations. We will need to look at the costs of bringing in power, cooling, networking, etc. Other universities with available vacant land don't have the same space constraints as Northwestern. Planning for a new data center will be a long process and adding this to present engagement would likely delay being able to move ahead for any researcher that needs a place for their clusters.

NUIT is collecting information about the marketplace for 3rd party offerings and will have a report at the next meeting. With EYP and other information, we will be in a better position to make decisions.

Tech LG87 - Tom Board
To deal with some of the immediate needs, EYP is developing a design proposal for Tech LG-87. There has been a walk through of the space. A design with options will be
delivered November 8th with a decision expected, soon. The space should be ready by the end of February and will support 16 racks with a minimum 3-year life expectancy.

**Discussion**
It is important that we continue to be nimble. We are learning a lot that we didn’t know before. For example, the number of nodes and the power requirements collected four months ago need to be updated. We continue to identify additional servers and the needs of the Medical School will be very large. Even with additional space, it won’t be enough for the long-term. As prices drop, more people are buying clusters with more nodes. Rather than two-processors for each node, four-processor nodes are now available. As equipment includes more built-in redundancy, power consumption will increase. These trends make finding efficiencies and understanding off-site options very important.

**General Discussion**
The Office of Research will inform NUIT of grant proposals that involve clusters so we can anticipate their support requirements. (A memo was issued last year about this.)

Some faculty are concerned that after moving their clusters to a central facility they will be charged. It was suggested that an announcement, perhaps from the VP Information Technology and VP Research, might help address these concerns.

There needs to be clarification about what support will be provided at no charge for research computing at the Data Center. We need to look at the spectrum of faculty expectations. For example, if faculty purchase the hardware, what infrastructure (power, cooling, racks, networking, monitoring, etc.) and services (operating system patching and upgrades, applications? etc.) will be provided? If hosting clusters is free, what guidelines need to be established, such as for power consumption or vendors? Can servers be consolidated and clusters shared?