Marc Horowitz IAP 1996

This proposal describes a UROP project for IAP, 1996. This research is a component of a larger project in course 16 investigating the viability of satellite-based data services, analagous to the satellite-based phone services which are nearing deployment today. One advantage of satellite-based networking is that extremely long-distance links, such as one between North America and Australia, do not require additional infrastructure beyond what is generally needed for global coverage. Since inter-satellite communication requires somewhat different design than ground-based communication, it is necessary to have an idea of what long-distance network traffic is like to engineer the satellite network and generate a viable business model.

My project is to produce a model for very long distance network growth for the next 20 years. This model will determine what technology and business model is appropriate for a satellite data network. This can then be compared to projections for ground-based networks, determining if the satellite network is actually viable.

In order to produce such a model, I will collect historical data on international and intercontinental network traffic. Once this data is obtained, I can use numerical techniques to build a model of network growth as a function of time or some other useful independent variable. Then, I can use this model to extrapolate future usage. I expect this project to take me about forty hours over IAP.

My background includes some focused work on global networking. In this work, the network technology is frequently an end in itself. This project interests me because it will let me apply my existing knowledge about networking to a real-world project. Since the project is run from a non-course 6 perspective, I hope to gain some insight on how other fields use as a means the technology which I normally perceive as an end.