Project Randomize

VoIP Implementation at MIT

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Project Proposal
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Project Outline

I.   Context for the Project

VoIP (voice-over-internet protocol) technology allows users to place telephone calls over a computer/data network, rather than using traditional phone lines. The technology converts analog human voice into a digital format that can be sent over established Internet connections, providing a significant cost savings to both companies and individual consumers. Corporations can save money using VoIP, as it eliminates the need to maintain both a data and telephone network in one building. If individuals at both ends of the communication line are using VoIP, long distance fees are virtually eliminated. Companies with offices spread over a large geographic area can take advantage of this long distance service to cut their spending.

Several factors prevent VoIP from gaining universal popularity. In a loss of power, VoIP phones do not work while traditional phones, which are not dependent on electricity, continue to function. Also, the implementation of VoIP in a traditional building with both data and phone networks may not produce the significant cost savings, since replacing an old system can be expensive. Finally, the phone service quality might not be as clear as a traditional phone, depending on the condition of the network.

Currently, VoIP is only used in two MIT locations: between the Media Lab and a contingent in 1 Cambridge Center and between MIT and Woods Hole. In this investigation we aim to determine what locations on campus would benefit most from a VoIP implementation.

II.   Purpose, Objectives and Approach of the Project

Purpose:
As a leader in the development of cutting edge technology, MIT has been closely watching the evolution of VoIP and is now considering establishing a VoIP solution to its telephony needs. This technology has reached its tipping point by achieving functional status in the marketplace and bringing with it the opportunity to reduce communication costs.

The purpose of this study is to determine the best venue for a VoIP pilot project as well as address questions about the installation.

Objectives:
1. Asses whether initiating a VoIP project at MIT will enhance the technological prestige of the university and will be reasonably well embraced by students and the administration.
2. Evaluate the VoIP installations of other universities to determine if a similar project at MIT is feasible.
3. Choose the best VoIP features and functionality for the specific implementation that is chosen for the pilot project.
4. Create a rollout schedule and procedures to make VoIP available to end users.

Scope:
The project will not provide an overview of the technology or a schedule for campus wide deployment. Rather, it will propose the details of an isolated installation which, can be evaluated over the course of several months to determine the feasibility of implementing the project.

As a basis for comparison and to evaluate various options, we will investigate VoIP installations at other universities and measure their successes and difficulties. We will use this information to help assess the feasibility of an installation at MIT.

An important part of the project will be to gauge administration and student support. Determining how people will react to such an installation as well as planning how to get people on board is well within the scope of this project.

One of the main road blocks to VoIP upgrades is the lack of robust infrastructure to support the new technology. Replacing outdated data networks is often far more expensive than reasonable for VoIP savings. For this reason, dorms that are slated to undergo renovations were selected as candidates for the pilot project. Therefore the scope of the project will not discuss data network infrastructure requirements but rather assume the necessary technology is already in place.

III. Tasks, Milestones, and Deliverables

1) Plan development and approval
   - Meet with Allison Dolan (done on 2/28)

2) Search and review
   - Everyone to review literature of evolution of VoIP, especially the pros and cons regarding the reliability and maintenance (3/27)
   - (all) determine the student representation we would like to see in the focus groups (3/27)
   - (all) determine the administration representation we would like to see in the focus groups (3/27)
   - (open) gather information on how the development of VoIP has been carried out at other colleges and universities (University of Michigan, Dartmouth) (3/30)
   - (open) gather prices and costs for current phone service from Allison (4/1)
   - (open) gather prices and costs for VoIP system from Allison (4/1)

3) Field Data Gathering
   - (open) conduct focus groups regarding the students' opinion of VoIP (4/13)
   - (open) talk with various labs and/or members of the MIT community about their feelings over VoIP (dependability, maintenance, cost, price sensitivity towards phones) (4/13)

4) Analysis of Data Gathering
   - (open) do an in-depth financial analysis on the ROI of VoIP (4/20)

5) Presentation
   - (all) prepare PowerPoint presentation outlining the important benefits and features (5/1)

6) Final Report
   - (all) report must include at a minimum the following (5/8)
      o Cover page
      o Thank you page to Professor Gibson, Evan and Allison Dolan and any other resources which made this possible
      o Table of contents
      o Introduction and overview of technology
      o Describe our analysis
      o State our conclusion
      o State our final recommendation as to how MIT should go about with VoIP
      o Display our data
      o Include additional resources for more information

IV. Uncertainties, Risks and Opportunities, and Planned Responses

The Project Proposal:
The primary mission of this project is gathering information which involves the following risks:
1.   Difficulties gathering data for implementations at other universities.
2.   Availability of people at various MIT offices.
3.   Participation in and success of the focus groups.

These connections will give us great insight into how MIT's systems work. There is little risk of unforeseen problems occurring, though should we be unable to glean the needed information from these sources, we will look elsewhere at MIT, moving up the chain of command as necessary.

The Project:
Any number of problems may occur during the completion of this project. Support from the administration, IS&T, Facilities as well as students will be critical to its success. Part of the scope of this project proposal will be to gauge and find ways of getting this support as well as strategize what can be done if it fails. A key aspect of this project will be to integrate the new technology without disturbing the culture of the dorm. On the administration side, we need to work carefully with IS&T to ensure that their concerns are addressed.

Cost will not be a factor in the completion of the project report. VoIP systems are inherently very inexpensive which is one of their main selling points. However, addressing possible cost barriers to the implementation of a VoIP solution will be an important possible road block to address.

.V. Critical Success Factors

A large portion of our project depends on information extracted from interviews. As a team, we need to gain contact with the IS&T department, administrator and students. It is critical that we complete these interviews by the first week because the responses might reveal information that can change the course of our project. If we are finding difficulties getting interviews, we will look to Professor Gibson, our TA Evan or our champion Allison Dolan for suggestions.

It is also critical that we obtain accurate estimates for VoIP implementation costs. We will be calculating the costs and ROI of implementing a system, so adequate research of the pricing information is essential. We rely on Allison for these estimates since she already has this data on hand. If it turns out Allison does not have these resource we will look to our professor and TA for more leads.

Another aspect of our project is the evaluation of VoIP on campuses that have implemented it. We will need to contact informative people at University of Michigan and Dartmouth. If we are unable to locate the correct people, we will once again look to our professor, TA and champion for advice.

Most importantly, it is crucial that our project has a solid and reliable team. MIT is a very stressful and demanding environment. Coordinating meeting times, completing all the tasks and producing quality work requires dedication and trust. Ensuring that three busy people can work together is extremely important. Each team member must be able to express his or her opinion and be an equal contributor in the group. If this is not happening, our team will have to meet and solve the problem.

VI.   GANTT Chart

Review VoIP Literature(3/27)				
Gather info on current phone system (4/1)				
Gather info on VoIP System (4/1)				
Info on Other Schools (3/30)	Meet with G&M (4/13)	Meet with AFD (4/13)		
Assemble student focus groups (3/27)	Conduct Focus groups (4/13)	Meet with G&M (4/20)	Meet with AFD (4/20)	Meet with G&M (5/1)
Assemble administrator focus groups (3/27)	Survey MIT Community (4/13)	ROI on VoIP (4/20)	Prepare PPT (5/1)	Final Write up (5/8)

Search and Review	Field Data Gathering	Analysis of Data Gathering	Presentation	Final Report
1 week	2 weeks	1.5 weeks	1.5 week	1 weeks

*G&M=Gibson & Mamas
*AFD= Allison F Dolan