

IS&T Findings Review Report Summary

Review of 10 Year Capital Plan

Review Team Members

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Purpose

- identify major capital expenditures that will likely be needed to support MIT's teaching and research mission, as well as overall administration;
- develop a multi-year capital plan at a high level; and
- identify physical requirements for MIT's IT infrastructure including space and other needs.

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Authors & Contributors

Jerry Grochow, leaders in IS&T and a subset of key users of IT across MIT

Critical Findings

1. MIT's IT capital needs larger than expected (potentially as much as \$750M over 10 years according to the report).
2. Upgrading maintaining MIT's Network Infrastructure will cost ~ \$200M - \$250M (10 years).
3. Upgrading and maintaining MIT's Enterprise systems (current technology) is ~ \$200M - \$250M (10 years).
4. There is a huge unfunded mandate related to the data centers where only ~\$20M is projected to be available out of the ~\$130M - \$160M projected need.
5. There is an increasing expectation from the community that demands for new or expanded IT services will be met, and at an increasing pace.
 - a. The need for disk storage is growing exponentially.
 - b. The demand for redundancy for disaster protection is continuing to increase.
 - c. The use of virtualization technology is becoming more commonplace.
 - d. There is a growing demand for technology that supports collaborative teaching.
 - e. The number of high performance computing racks is continuing to expand at a high rate.
6. There is a growing demand for mobile computing and integrated technologies which requires the appropriate infrastructure to support it.

Additional Findings

1. Of the total estimated MIT IT capital expenditures, ~50% currently falls under the Vice President for IS&T while the remainder falls under other groups (excluding Lincoln Lab, VP-IS&T is ~60%).

2. Approximately 60% - 70% of IS&T's projected capital need is available within its funding envelope assuming expected FY09 capital funding continues at that level over the next 10 years.
3. Some capital expenditures are funded with annual operating dollars, especially those that are relatively smaller.
4. IT is likely to continue to require increasing amounts of electric power (currently estimated at 10% of MIT's total usage).

Strategic Questions (from the report)

- What is MIT's IT strategy?
 - Does MIT want to be at the forefront, the middle of the pack, or trailing in the application of technology in teaching, research, and administration?
- What are MIT's IT priorities?
 - What's the process for determining the criteria for identifying IT priorities across MIT?
- MIT IT services will continue to be provided both locally and centrally. Should this change, and if so, how?
- How will MIT address the IT infrastructure investment needed to provide security on campus?
 - How much is the responsibility of the Institute versus the individual DLCs?
 - How much technology will the culture support (e.g., video cameras)?
- How do the points of integration with other campus development and capital planning project workstreams impact the IT capital plan?
- How much funding does MIT have available to meet IT capital needs?
 - Of the total IT capital funding need identified, how much is incremental versus what is available in the existing funding envelope?

Recommendations (from our team)

- Review the capital projects considered during the formulation of this plan. Update the status of those projects and what new Institute wide capital priorities have been determined since this report.
- The report mixes several different different goals (aka providing central infrastructure vs. DLC). We recommend that potential capital expenses that impact IS&T's budget and or MIT's central administrative budget be separated out. The numbers should then be revised to reflect changes over the last 2 years, including changes in costs as well as factoring in capital expenses that have occurred (i.e. the building out of the OC-11 data center) as well as the impact of new demands for IT infrastructure.
- For 2011, the timelines and expenses for IS&T expenses should be extracted from this report and edited to reflect the passage of two years.