Massachusetts Institute of Technology
Ivy+ Network / Telecom Update



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Massachusetts Institute of Technology

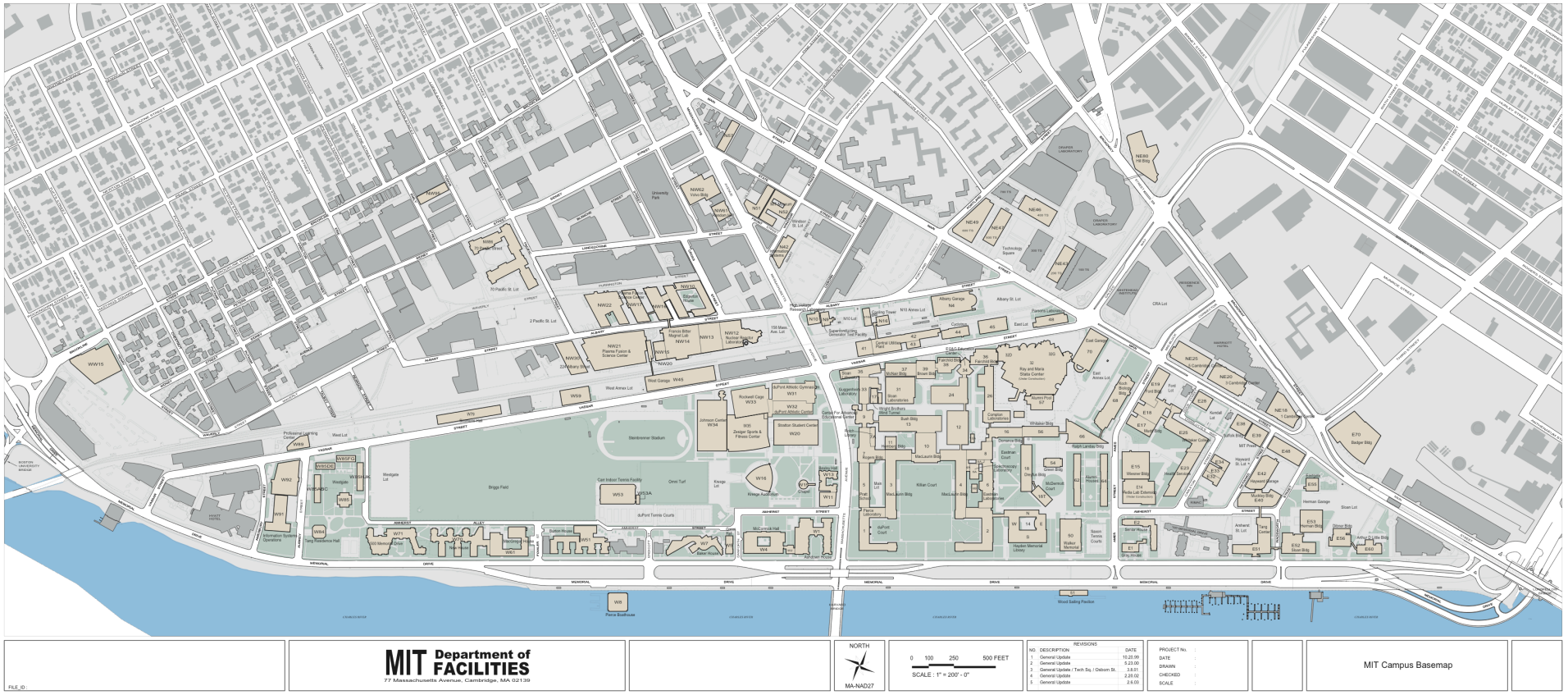
Information Services & Technology

MIT – By The Numbers

- 4,172 Undergraduate Students
- 6,048 Graduate Students
- 1,700 Faculty
- 11,000 Staff

- 25,000 TDM Phone Lines
- 2,500 VoIP Lines
- 3,200 Access Points
- 43,000 Wired ethernet ports

MIT Campus Map



Massachusetts Institute of Technology

Information Services & Technology

MIT W91 Data Center



W91 Data Center in Transition



Before – very inefficient use of space

W91 Data Center in Transition



W91 Data Center in Transition



Many Great Changes to W91 Data Center Additional Power (240kW)



Additional Cooling
(2-150 ton cooling towers)



W91 Data Center - Completed



New Off Campus Location
One Summer Street, Boston, MA



FY09 Moving Enterprise Servers To Off Campus Location



Virtualization

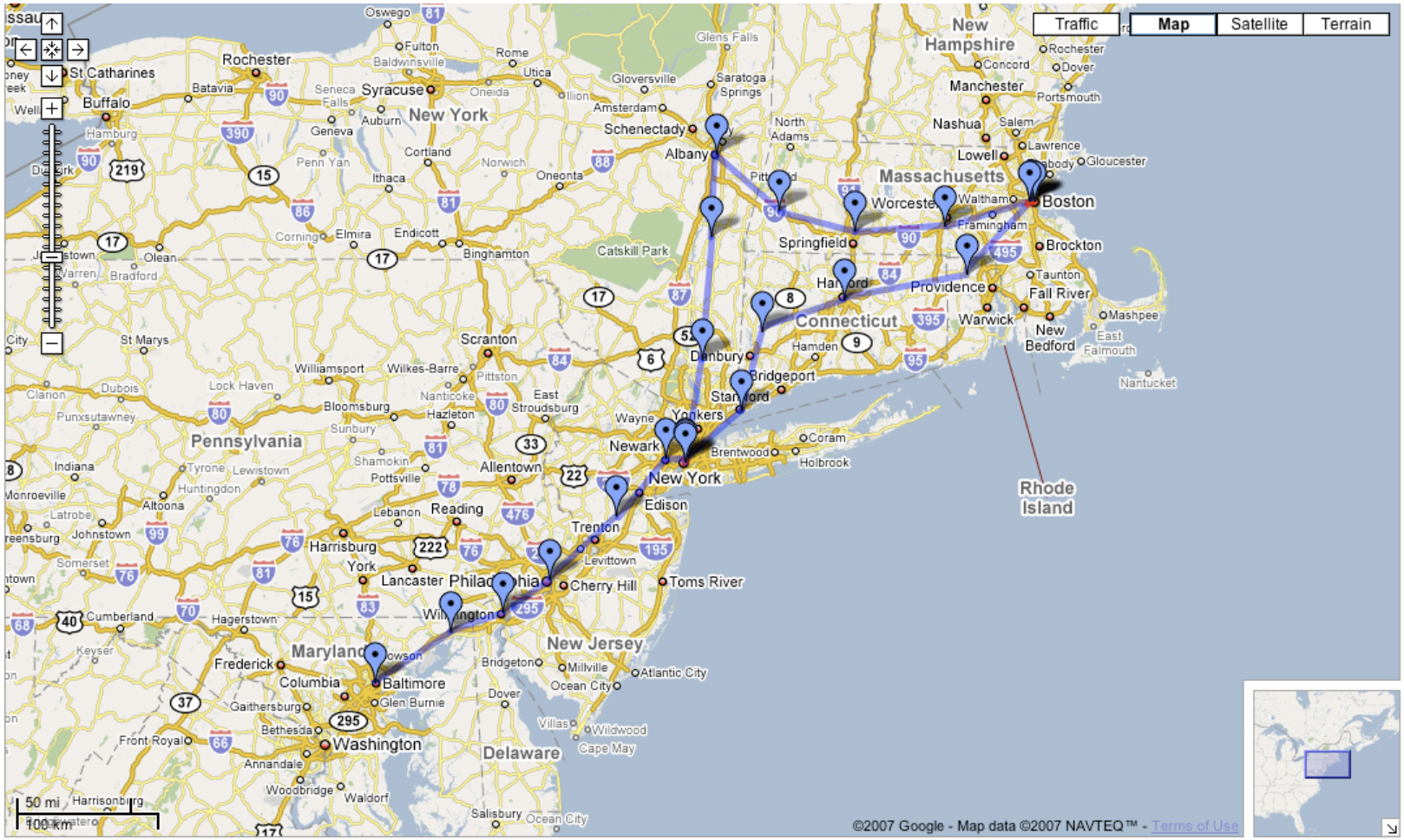
- MIT recently completed a site wide license with Vmware for their server and desktop products.
- Currently offering virtualized server services using XEN to faculty, staff and students.
- As MIT re-locates its enterprise servers and services from W91 to One Summer St we will be taking the opportunity to migrate them to Vmware.

Large Hadron Collider (LHC)



Output: 16 Petabyte per year
(4Gb/s 24 x 7)

MIT Regional Optical Network Physical Map



32 Avenue of the Americas





MIT Campus Network

- 7 core Cisco 6509 routers
- 3000 edge switches, mix of Cisco, Asante, Cabletron and Enterasys
- 3,200 access points, mix of Lucent, Avaya, Orinoco and Enterasys.
- Dual 10 Gigabit backbone network
- Each building connected to an MITnet core router via multi-mode or single-mode fiber at 1Gb/s.
- 3 Commodity Internet Service Providers and Internet2 CPS, 1.5Gb/s average use.
- 10Gb/s connectivity to Internet2 (NoX), NLR, ESnet, LHCnet

MIT Wireless Network

- 3,200 access points supporting 802.11 a/b/g today, providing 100% campus coverage.
- 802.11n wireless evaluation starting in September of 2007. Currently evaluating several vendors, including Aruba, Meru, Cisco and Enterasys (Trapeze).
- Looking to deploy 802.11n capable access points beginning this summer.

MIT VoIP Updates

- Completed VoIP infrastructure build out using Sylantro as the soft switch, Iperia for voicemail and Polycom end points.
- Established a VoIP transition team to coordinate the campus migration from TDM to VoIP.
- Began formal campus VoIP transition this past January with the Sloan School.
- Targeting an approximately 3 year transition with a migration of roughly 1500 lines per quarter.

Email/Calendar Project Update

- Email/Calendar project kicked off in Spring 2007.
- Evaluated a variety of solutions in the integrated Email/Calendar space as potential upgrade/ replacement paths from our existing Oracle/ Cyrus system.
- Current recommendation is to introduce Microsoft Exchange as an alternative offering for users desiring an integrated Email/Calendar experience.
- Pilot exchange environment to be available in May.

MIT Security Update

- Fundamental nature of security attacks is changing.
- Suffering spear phish attacks at an alarming rate!
- When will people learn not to mail their password to Hong Kong???
- What to do about peer to peer file sharing?
- PCI compliance
  - Its all about scope!

MIT Emergency Communications

- http://emergency.mit.edu/
  - Trivial content management system
  - Redundant and easy to duplicate
- Notification
  - SMS
  - Email
  - Voice???

Questions

- Questions?