Information Technology

Campus Network, Data Center
And Student Portfolio Update
Topics

Campus Network update
• Upgrade of campus WiFi, network & internet connectivity

Data Center move update
• Enabling growth in research, academics & business

Student Portfolio update
• A step towards achieving a Competency-based Assessment model by the T.H Chan School of Medicine
Network Update

- Increasing internet connectivity by 3x
- Doubling WiFi access & upgrading system
- Increasing network jack speed from 1Gb to 10Gb in every building
- Laying out 100+ miles of new network cabling
- Reconfiguring 61 network closets
- Upgrading 581 ten year old+ switches

More than doubled campus wireless access points

<table>
<thead>
<tr>
<th>Building</th>
<th>WAP Before</th>
<th>WAP After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical School</td>
<td>450</td>
<td>992</td>
</tr>
<tr>
<td>Lazare</td>
<td>140</td>
<td>324</td>
</tr>
<tr>
<td>Albert Sherman</td>
<td>220</td>
<td>450</td>
</tr>
<tr>
<td>Total</td>
<td>810</td>
<td>1,766</td>
</tr>
</tbody>
</table>
Phase I - FY2023
• GSN / GSBS offices in School - Completed
• Albert Sherman Learning Communities - Completed
• Library - Completed

Phase II – FY2024
• Lazare Research Building floors 1-9 - Completed
• Medical School floors 1-9 – Completed
• Albie Sherman floors 1-3 – Completed
• NERB – Completed

Phase III – FY2024/2025
• Medical School floors A & B – Completed
• Albert Sherman floors 4-9 – July 2024

Phase IV – FY2025/2026
• Rest of network (ACC, Shaw, Chang, Fuller, etc)

Wireless network

Timing of Upgrades

Campus Network Upgrades

U Mass Chan MEDICAL SCHOOL

Improving reliability, speed, enabling WiFi 6, 10Gb port speeds and 100Gb campus inter-connect

Physical network

• Lazare Research Building floors 7-9 – Completed
• Lazare Research Building floors 5-6 – April 6, 2024
• Albert Sherman Center – March 2025
• Medical School – June 2026
Why Migrate UMass Chan’s Data Center?

Business Drivers & Objectives

Investment and Strategy
• Significant investment is needed to support a modern-day DataCenter
• UMass Chan is vacating the South St. property

Environmental Scale & Capacity
• A colocation facility provides scale and capacity for infinite future growth
• The South St. DataCenter is 20+ years old

Customer Demand
• Meeting the infrastructure, performance and connectivity demands of our customers
• Aligning our organizational and technological growth trajectories

Security & Reliability
• Enhance our security posture
• Provide a more robust, sustainable and scalable environment

Next Generation Platforms & Innovation
• Enabling future technological growth and requirements with speed and scale
• Positioning UMass Chan for future success
Investing in our Technology Future

Old Data Center vs New Data Center

1. Limited DataCenter Space, Power and Cooling vs Unlimited DataCenter Scale and Capacity
2. Aging End-of-Life Firewalls vs 15 New Firewalls with Enhanced Security
4. UMassNet Dependent WAN Connectivity vs Dedicated 100GB WAN Connectivity
5. Aging Legacy Network Architecture vs 4x Campus Network Connectivity
6. Stand-Alone Compute Infrastructure vs Cloud Compatible Compute Infrastructure
7. Limited Internet Connectivity vs 3x Internet Capacity & Performance
8. Legacy Azure Cloud Instance vs Re-architected Azure Cloud Environment
Data Center Migration

**Migration Strategy**

1. Virtual “Move Groups” will be built from affinity mappings and migrated “Over the Wire”
2. Physical Infrastructure and non-redundant services will be transported in 3 Physical Move Groups
3. Migration timing, scheduling and testing with be coordinated with application teams and owners
4. All virtual Move Group migrations can be “Rolled Back” if any issues are detected

**Physical Move Groups**

1. Move Group
2. Move Group
3. Move Group
4. Move Group
5. Move Group

South St. Shrewsbury to Markley Lowell
DataCenter Migration Milestones

**April**
- First Equipment Move Complete

**June**
- Network Connectivity Established

**August**
- Network Security in Place

**November**
- First Workload Migration

**January 2025**
- Migration 50% Complete

**May 2025**
- Migration 100% Complete

**March**
- Markley Contract Signed

**May**
- Markley Site Ready for Occupancy

**July**
- Second Equipment Move Complete

**October**
- Install and Configure Compute Environment

**December**
- Migration 25% Complete

**March 2025**
- Third Equipment Move Complete

**June 2025**
- South St. Turn Down
Student Portfolio

• A step towards achieving a Competency-based Assessment model by T.H Chan School of Medicine
• Central point for students and mentors to find formative and summative assessment results for all four undergraduate years
• Documents student progress through Discovery blocks, Exploration clerkships, and Horizons blocks (ex. WBAs, Exam results, etc.)
• Milestone tracking for student formative development by each school competency and as a summary analysis for peer comparison

Demo