



CASE WESTERN RESERVE
UNIVERSITY EST. 1826

2008 Annual Update

Information Technology Services 2007-2012 Strategic Planning Framework

www.case.edu/its/





In May 2007, ITS published its second five year Strategic Plan (2007-2012*)

In that plan, we committed to an annual report-out on progress towards our strategic goals. This 2008 document updates our progress in advancing the broad themes of that framework, shows how IT advances benefit the university and the greater community, and measures outcomes through feedback about advances in service and our customers' perceptions of that service.

As the university prepares to publish its *strategic plan*, we have begun a formal alignment analysis and will report out on that analysis next year.

Reflecting back over the 2007-2008 school year, customer feedback remains strong and positive. Our performance metrics are largely positive with room for improvement in the year ahead. (see page 16).

Why Strategic Planning Matters: Creating and referring regularly to our published *ITS Five Year Strategic Planning Framework 2007-2012* provides ITS staff and the broad community a comprehensive guide to understanding the services provided by Information Technology Services at Case as well as a map to follow as we prioritize and operationalize **Our Vision to re-imagine, re-invigorate, and re-invent** ourselves for the future.



Structured Innovation

2008 updates, pages 3-6

Structured innovation solutions such as blogs, wikis, virtual 3D web, and the wireless network catalyze work in user-created content, facilitate the convergence of data and communications, and enhance campus life and the academic experience. We propose to exploit the use of such solutions as transformative experiences supporting scholarship, research, experiential learning, discovery, interaction, and play. We are measuring our progress along six strategic initiatives of this theme.

Engagement and Collaboration

2008 updates, pages 7-10

ITS will evolve into a collaboration-driven and collaboration-enabled service organization, reimagining and reinventing the way we conduct business and support the university's academic, research, administrative and outreach missions. A broad variety of groups will be re-engaged for governance, and toward supporting an innovative, inviting, and collaborative environment – in ITS, at Case, and within the initiatives to provide the university and the community around us with innovation value, opportunity, and distinction. We are measuring our progress along six strategic initiatives of this theme.

Core Technology, Continuity Planning, and Compliance

2008 updates, pages 11-14

We will propose an incremental directional strategy for building technical, human capacity, and investment capacity to support the expectations of an aspiring, modern, 21st century research university with regard to information security, regulatory requirements, disaster recovery, and business operations for risk mitigation. While the strategic call for these initiatives belongs to the university's executive and to the business owners, the operational responsibility belongs to ITS; we will work together to gain traction in managing the risk portfolio. We are measuring our progress along eight strategic initiatives of this theme.

Budget

2008 update, page 15

We propose that by Fiscal Year 2012, the ITS budget represent 3.11% of the total university budget.

Measured Outcomes

2008 updates, page 16

It is particularly important in building an engaged and collaborative organization that we maintain measures of outcome in a transparent and readily available manner. It allows us to readily review, analyze, and provide feedback about what services are working and what needs to be attended to in order to maintain our quality service commitment. The 2007-2012 Strategic Planning Framework measures key indicators in these areas. Here, we update those Outcomes Measures to represent change one year into that Framework.

Advances in Strategic Initiatives: Structured Innovation

- Six of twenty strategic initiatives to measure.
- Tasks to be accomplished over five years.
- What we have done in one year.

1. The impact of new technology on learning.

- Deepen and broaden understanding of teaching and learning with technology.
 - Promoted Dr. Wendy Shapiro to Senior Academic Technology Officer to advance this goal.
- Publish and incorporate information gathered from assessments into technical innovations.
 - Developed an assessment plan to study and investigate impact of new technology on learning.
 - Developed Media Vision Courseware 2.0
 - Held both faculty and student focus groups to discuss the impacts of technology on teaching and learning.



Throughout this document, you will see that ITS has launched Case far forward into the new frontier of using technology to advance learning. We've successfully deployed new tools such as Adobe Connect and the virtual world Second Life® for state-of-the-art networked video collaboration.

ITS takes assessment of such new tools seriously, and we have a full time Ph.D. in Assessment in our ITAC Department, Mace Mentch. We strive continuously to understand the impact technology can have on learning, facilitating discussions surrounding important issues: Does the learning taking place in these environments differ from learning in other environments? Do different kinds of learners excel in high technology environments like virtual worlds? Are there learning moments that take place in these environments that can not happen in traditional learning spaces? At the same time, what are some of the deficits or possible shortcomings of blending high technology learning with more traditional forms of education?

In 2007, we undertook an extensive survey of faculty, students, and staff, asking numerous questions regarding their use of - and belief in the importance of - the new technologies being made available. Their answers established a baseline for our measures of improvement in the next year of our five year strategic planning framework.

2. Learning spaces (physical and virtual) that engage and develop learners and lead to student success.

- Invest in and support the university's technology-enhanced classrooms; equip all university learning environments with appropriate technologies.
 - Launched Adobe Connect.
 - Evaluated current design criteria for physical learning spaces; revising in collaboration with faculty, staff, and students.

Structured Innovation

- Six of twenty strategic initiatives to measure.
- Tasks to be accomplished over five years.
- What we have done in one year.



In October 2007, ITS hosted the first annual Faculty Technology Showcase to raise campus awareness of new technologies and how various departments and faculty are using them. This exchange of information on the creative uses of technology to advance the teaching, learning, and research goals of the university has proved valuable to Case faculty and students alike. All shared original ideas about the technology they saw at the show and promoted other new ideas they have about technology in the classroom. One student considering coming to Case told showcase coordinator Dr. Mace Mentch (in *Second Life™*) that he would definitely be attending Case if this was the type of technology that Case used. It was all about making the invisible, visible.

4. High performance computing.

- Grow processor to optimal sustainable level.
 - Established core facility; elevated awareness across campus
 - 60% of the current computational capacity has been funded externally
- Establish Technical Advisory Committee and Establish High Performance Computing Ownership Board.
 - Established cluster ownership board

5. Advanced research computing support.

- Achieve an ongoing direct contribution from research grants and/or other external sources to \$1M, with total associated grant funding in excess of \$5M
 - During FY2008, achieved \$225K in external funding requests for ARC out of a total of \$17M in associated grant effort
 - Developed program of awareness through improved Research ShowCASE participation and enhanced faculty communication strategies
- Distributed operation of campus research computational and storage grid.
- Involved in experimental efforts in emerging technologies as determined by research investigators.
 - Advanced Research Computing includes two Ph.D scientists, Dr. Roger Bielefeld and Dr. Jon Cline, who are active research collaborators and Ph.D dissertation committee members

Structured Innovation

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A free wireless network covering five square miles of University Circle and surrounding areas is up and running, due to efforts spearheaded by Case and OneCommunity, a technology-focused economic development organization. ITS worked diligently on the project throughout 2007 and 2008, and will continue expansion efforts.

Powered by rooftop antennas connected to OneCommunity's fiber backbone, and wireless access points located on light poles and rooftops, the mesh differs from more common WiFi technology in the continuous nature of its high-speed internet coverage. Members of the community – Case students, faculty, and staff, but also public and nonprofit institutions, and the general public – can have the same access sitting on a park bench as they would at a library. For complete coverage information, see www.linkedcommunities.org

While the original goal of the wireless mesh project was education, certainly wireless access has an impact on the greater community and is an asset that could attract more businesses to the area.

6. Mobility and converged platform for collaboration.

- Partner with mobility vendor to create a university research and development facility for mobility-based learning and research activities, including an annual activities agenda.
 - Engaged with mobile vendors for products and services, including 2-D Bar Code Trial
 - Expanded wireless mesh in University Circle and nearby communities



Case Western Reserve University has an important role in the life and aspirations of the broader community, understanding that our own long term health and well being is inextricably linked to the health and well being of Northeast Ohio. Technology advances connecting the community help bridge the “digital divide” existing in Cleveland’s inner city communities; in just one example, our close neighbor, the Ashbury Senior Computer Community Center, uses the power of the wireless mesh to provide free, empowering, technology resources and computer learning to inner-city elders. Ashbury’s executive director, Wanda Davis, says, “Broadband creates learning opportunities for residents, businesses and organizations located in and around University Circle, and gives us increased capacity for multimedia training, workforce development, community meetings, a community blog with advertising space for small businesses and organizations, online classes for housebound seniors, and above all a neighborhood safety watch and e-mail alert. I am looking forward to a day very soon, where I can host a safety meeting here at the Center simultaneously with every neighbor in the area who has broadband capability. Wouldn’t that be phenomenal! Every home with access to broadband technology with the ability and knowledge to use it.”

Advances in Strategic Initiatives: Engagement and Collaboration

- Six of twenty strategic initiatives to measure.
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- What we have done in one year.

1. Best of class Web 2.0 collaboration solutions: email, calendaring, file sharing, instant messaging, meeting spaces, dynamic media, web, video and audio conferencing, blogs, wikis, course management, forums and search tools.
 - Promote demonstrations of collaboration tools through conference presentations between ITS and other university staff, faculty, and students.
 - Held first annual *Collaboration Technology and Engaging the Campus* event
 - Engage in an open planning process to establish quarterly goals with respect to the delivery of collaboration tools; follow those goals.
 - Deployed Case GoogleApps (for email, calendaring, documents, sites)
 - Deployed DocShare (for file sharing)
 - Deployed Carbonite (for backup)
 - Deployed Adobe Connect (for collaboration)
 - Deployed iModules (for Alumni)



Wikipedia defines Web 2.0 as a “term describing the trend in the use of World Wide Web technology and web design that aims to enhance creativity, information sharing, and, most notably, collaboration among users.” In our determination to re-imagine, re-invigorate, and re-invent ourselves for the future, ITS has used Web 2.0 as an enabling platform through which to launch the many tools that further engagement and collaboration among its constituents and with the greater community.

Case Web 2.0 tools now support innumerable individual ventures by faculty, staff, and students into the use of wikis, blogs, conferencing, and services like calendaring, emailing, and IM (instant messaging.) Information Technology Services teamed up with Google to offer Google Apps for Case Western Reserve University, a new collaboration suite of services that includes a web start page, mail, calendar, instant messaging, shared documents, and sites (similar to a wiki) for the University.

Advances in Strategic Initiatives: (continued)

Engagement and Collaboration

- Six of twenty strategic initiatives to measure.
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Mano Singham, a theoretical physicist and Director of Case's University Center for Innovation in Teaching and Education (UCITE), has always worked in collaboration and encouraged his students to do the same. "The evidence is clear that an environment that supports collaboration is better for learning, with students tending to learn more of what is taught and retain it longer. Collaborative work used to require physical meetings, or time consuming delays in communications. Now, the tools of Web 2.0 greatly facilitate the collaborative process, so that you can readily get together with people with common interests on campus or around the world, at any time on anyone's schedule, to share information."

2. ITS Program Management Office.

- Evaluate and purchase Project Portfolio Management software tools; implement centralized portfolio management.
- Provide basic training in project management using the same project terminology across the division; define best practices in project management.
 - Developed policy for project management
 - Held courses in project management for ITS staff
 - Purchased DAPTIV, Project Portfolio Management Software
 - Implemented time accounting for EAS and TIS
 - Reviewed human resource allocation for EAS and TIS

3. Space Plan

- Plan, design, and occupy an innovative, inviting, and collaborative work environment.
 - Produced requirement definition for all ITS work environments
- Create a new, dynamic media production facility for professional video and rich-media production.
 - Identified permanent space for a MediaVision production studio



In 2007, the ITS MediaVision team produced a ground-breaking experience when they premiered the first digital simulcast of an American Orchestra (Red) into the 3D virtual web. Presented both in concert live on Case campus, and virtual-live on the Cleveland Plus island in Second Life, it was a spectacular representation of the highly engaging presentations that can be achieved through the use of new media.

Advances in Strategic Initiatives: (continued)

Engagement and Collaboration

- Six of twenty strategic initiatives to measure.
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In May 2008, ITS joined forces with several other university divisions to host the first annual *Collaboration Technology and Engaging the Campus 2008*. This high-level symposium event brought together technology innovators to look into the broad effects of the explosion of internet tools including mobile technologies, blogs, wikis, Second Life® and Adobe Connect on learning, on research, and on the community. This “sold out” event, with participants from across the country, included panel discussions, lectures and demonstrations. The keynote presentation, *Mass Collaboration and the Future of Higher Education*, by Anthony Williams, co-author of *Wikinomics*, was followed by an address by Barbara Snyder, President of Case Western Reserve University.

4. Renewal of IT Governance.

- Formalize governance of the Core Facility in Advanced Research Computing using the existing Advisory Committee on Research Computing, the Faculty Senate Committee on Information Resources, a technical advisory board, and an ownership board representing University investors.
 - Established executive level oversight committee
 - Established cluster ownership board
 - Established formal usage and pricing policies for the core facility

5. University Circle Innovation Zone.

- Co-host with partner institutions (and others) a quarterly forum on collaboration tools and their relevance to the University Circle Innovation Zone.
- Co-sponsor an annual University Circle Innovation Zone event.
 - Identifying potential collaboration partners at executive level
 - Held first annual *Collaboration Technology and Engaging the Campus* event
- Offer an organized, regular training schedule related to emerging new technologies to University Circle, Inc. member organizations.
- Concept of a shared services agreement between the University and University Circle organizations has been explored.

Advances in Strategic Initiatives: (continued)
Engagement and Collaboration

- Six of twenty strategic initiatives to measure.
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6. Cleveland 2.0.

- Cleveland 2.0 emerges as a sustainable innovation practice and platform.
- Leveraged existing University efforts to incorporate and promote Cleveland 2.0 (i.e. Medical School, Dental School)



Cleveland 2.0 is a Case-led coalition of community partners that includes dozens of libraries and museums, higher education institutions, public agencies (including more than 300 public schools) private industry, and a host of technology partners. Collaboratively, they have identified more than 50 major initiatives affecting the community whose applications run on the fiber optic and wireless infrastructure that today connects 10 counties in Northeastern Ohio through OneCommunity.

Susan Wentz, MD (top left), is passionate about the positive effects web tools can have on the greater community. As director of Case's Office of Urban Health, and a joint leader with partners at The University of Cincinnati and The Ohio State University in *NetWellness.org*, she has seen an innovative internet program grow into a robust health and wellness portal that every month draws over one million visitors from around the world to access medical information posted by faculty of these institutions. Susan says, "Medical faculty have complex, important information that applies to all aspects of health. While they are urging new knowledge forward at the research bench, at the bedside, and in the classroom, the internet broadens their communications reach. I find it exciting that someone can get answers today through an article written here in Cleveland, at the same moment that the physician-author might be teaching medical students in the hospital or performing surgery."



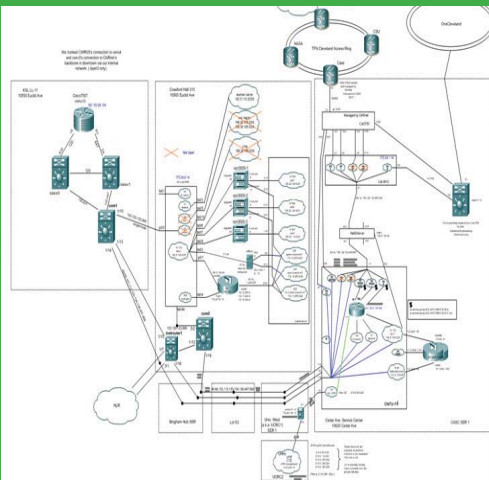
In 2007, Case Western Reserve University's Cleveland 2.0 Project was honored with a Laureate Award through *Computerworld's* program honoring those who use information technology to benefit society. "Addressing the diverse needs of the community through the involvement of strategic community partners who each offer specific areas of expertise and resources helps us improve the quality of life for others," says Latisha James (left), director of Community Relations at Case's Center for Community Partnerships. "Cleveland 2.0 is a great reflection of the university's successful public-private partnerships established throughout the region."

Advances in Strategic Initiatives: Core Technology, Continuity Planning, and Compliance

- Eight of twenty strategic initiatives to measure.
- Tasks to be accomplished over five years.
- What we have done in one year.

1. Case IT Architecture 2.0.

- Periodic replacement and maintenance of all production IT infrastructure equipment and software as defined in the ITS Business Continuity Plan.
 - Maintain LDAP and AD/Kerberos architecture
 - Created sandbox for testing IPv6
 - Maintain Call Manager to V.6 M C '07
 - Maintain MyCase
 - Maintain ERP student portal via MyCase
 - www.case.edu server replacement
 - Replacing SSN as key identifier
 - Identifying lifecycle workflow documentation, data mart, and security plan
 - Deployed first version of campus notification system (WARN)



A key concept of the 2007-2012 Strategic Planning Framework is that our core technologies would require systematic investment even to maintain the level of service to which the university has become accustomed – and a more intensive systematic investment to support the growing demands for the participatory applications described elsewhere in this document.

Beyond demands, there are post 9/11 requirements for checks and balances on our financial administrative systems, and on reporting associated with the security, safety, and compliance of our world. The list above this box represents some of the accomplishments of the past year in finding funding for, and implementing, improvements to the IT Architecture sufficient to pull Case into the “2.0” generation of service, capacity, and reliability. The goal of the five-year plan is to expand, improve, and provide redundancy for critically important applications so as to assure a sustainable plan for at least the next ten years.

2. Upgrade key administrative systems.

- Upgrade EPM (data warehouse and budgeting), financials, and HCM to Version 9.0
 - Developing business plan to upgrade financials and HCM to Version 9.0
 - Evaluating Higher Ed Act changes and impacts

■ Eight of twenty strategic initiatives to measure.

■ Tasks to be accomplished over five years.

■ What we have done in one year.

- Refresh hardware
- Student system implemented.
 - Admissions and campus community sites implemented
 - Schedule of classes implemented
 - Registration and academic advisement implemented
 - SIS security evaluated
- Human Resources: Employment applicants and employee evaluations.
 - Hired EAS Director
 - Implemented workflow enhancements

3. Focus on data warehouse enabling decision support

- Student data from new system available in data warehouse.
 - Student Data Mart 9.0 (developing 3 key reports)
 - Created data warehouse standards
 - Evaluated data warehouse infrastructure
- Workforce analytics (HCM) implemented in data warehouse.
 - Completed reconciliation of financial data mart and security plan



Data Warehousing is a source of consistent, well-defined data for analytical, operational, and business decision making purposes. Throughout 2007, ITS grew the capacity of data warehousing to ensure that everyone has access to, and can easily retrieve and distribute reports from, the same source information – eliminating the need for schools or divisions to create their own ‘information world’. Data retrieved can be presented in different levels of detail and aggregation to meet user needs at their individual approved level of clearance - a key feature of the system is the ability to reliably shield sensitive information from anyone who shouldn’t see it. Student, General Ledger, Budget, and Grants are the current four main areas of information integrated into the data warehouse.

Robert A. Knight is Director of Finance for the School of Engineering. “I rely on self-service reports from the data warehouse as the most efficient way for me to get information that I could otherwise get from the General Ledger, but only by analyzing dozens or even hundreds of individual accounts,” he says. “For instance, the data warehouse creates a summary of endowment and tuition accounts to give me a realistic picture of our projected income far in advance of spending. The beauty is that all the data already exists. The data warehouse just makes it possible to store and arrange it so as to easily retrieve it. As a user, I don’t need to know much about the programming or data systems to have ready access to the information I need to make good business decisions for the School.”

■ Eight of twenty strategic initiatives to measure.

■ Tasks to be accomplished over five years.

■ What we have done in one year.

- New data marts in version 9.0 EPM available in data warehouse.
 - Writing business case for upgrading from 8.8 to 9.0
 - Write awards/proposals/projects



4. Expansion and Improvement of Enterprise Data Centers.

- A fully implemented Center exists on or near campus housing all of the primary IT infrastructure equipment necessary to support the CASE IT Business Continuity Plan.
 - Completing Data Center remediation
 - Upgrading Data Center network
- A fully implemented Center exists off campus housing all of the redundant equipment and data necessary to support the Case ITS Business Recovery Plan.

5. Sustainable plan for production, development, and redundancy of IT equipment.

- Plan in place
 - Server consolidation 20% virtualized or replaced
 - Established renewable refreshed capital account for servers, network applications, and TECs
- Rate of uptime is established as the primary indicator of success.



6. Continuous upgrades and renewal of fiber backbone infrastructure and related electronics.

- A fully redundant network of fiber backbone exists from the core out to the distribution level of the Case network
- Continually upgrade fiber backbone infrastructure to distribution level of Case network.
 - Expanding wireless mesh in University Circle and nearby communities

7. Contingency planning.

- Operational budget for periodic replacement and maintenance of all production IT infrastructure equipment and software as defined in the CASE ITS Business Continuity Plan is executed.
 - Drafted DR/BC plan
- A formalized and practiced contingency plan for all information technology services is provided to the Case Community.
 - Split servers 80% KSL, 20% Crawford
 - Created Flu Plan

■ Eight of twenty strategic initiatives to measure.

■ Tasks to be accomplished over five years.

■ What we have done in one year.

8. Augmentation of information security services.

- ID management requirements and priorities have buy-in from key stakeholders.
 - Instituted new policy of account closure upon employee termination
 - Launched security training program to ensure that key administrators have essential skills to become certified Tier III administrators
 - Completed policy governance for “high risk/high impact” restricted data (Tier III)
 - Advanced stages of ID management
 - Implemented vulnerability management
- Three limited scope pilot projects implemented.
 - Prototype for network administration control
 - Prototype trial for 2-factor authentication
 - Security scanning and auditing
 - System administrator certification



Tom Siu, as Case’s Chief Information Security Officer, is responsible for information security operations and administration. His goal is to manage the risk to the university information environment through policy, controls, countermeasures, and training. One significant security risk surrounds access controls to sensitive information systems. As senior administration, faculty, staff, and students continue to grow more reliant on information technology, access control measures are needed to protect data resources against unauthorized access, while continuing to keep appropriate public access available.

Tom describes the creation of an information classification taxonomy as a three-tier access security architecture where Tier I is “Public Information,” Tier II is “University Internal Information,” and Tier III is “Restricted Information.” Tom said, “We had few controls in 2006 and now an appropriate control set exists at each level of information sensitivity.”

Tom likes to use a library analogy to describe progressively more aggressive access controls. “Think of Tier I as the general circulation area. Tier I controls are the minimum security and access control standards (i.e. you need a library card). Tier II is the reference section – you can go there but you cannot borrow the material. The computing equivalent would be managed domains where users are not administering the systems, but an administrator (i.e. librarian) performs this function, such as using Case Active Directory. Information in Tier III is restricted university information and more like the library’s special collections – you need special authorization to view those materials and even then a collections librarian wearing white gloves may have to handle them for you.” In IT systems parlance, Tier III is where we apply the strongest physical access, network connectivity, and administrative controls.

In a complex and sophisticated user environment like Case, with growing importance associated with our various compliance activities, ITS has prioritized building capacity in this area so as to manage the security risk to IT operations.

Business and Operations:
Fiscal Year 2008 Budget

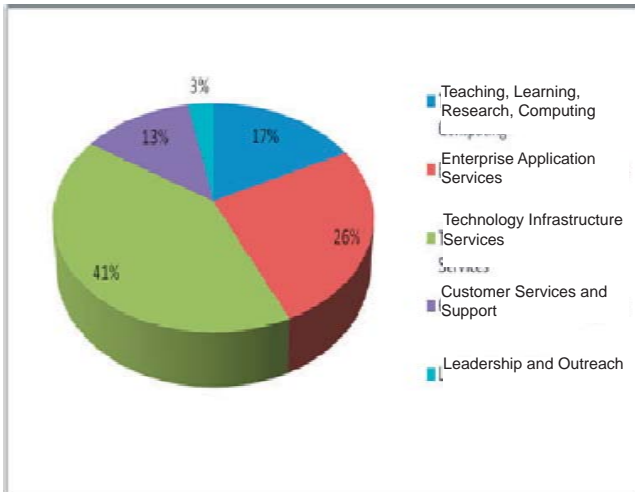
Discussion:

In Fiscal Year 2008, ITS is the steward of an operational budget of \$18.16m (Salary and Non-Salary).

In addition, the university is paying off some \$6m per year in internal loans to support project activity, including a network upgrade that began during the first five year plan, and ERP for HR, Finance and Student Systems.

We estimate the investment of the university's decentralized IT organizations from schools and other units like Student Affairs and Enrollment Management totals another \$12 million per year. And, in collaboration with University Facilities and Planning, we jointly plan a refresh of the core fiber plant over a ten year period with an annual allocation ranging up to \$1 million per year.

Note: The allocation of ITS' budget is in the pie chart below and the accompanying breakout of business lines of service (that cross our organizational boundary). These allocations include both our salary (including benefits) and our investments in goods and services.



Academic Services	3,479,921
Technology Enhanced Classrooms	440,354
Academic Technology and Blackboard Support	347,634
Faculty Support and Innovation	264,731
Video Collaboration Services	96,523
MediaVision Courseware	489,707
Curricular Support School of Medicine	69,540
AV Support	182,368
Video Production	438,158
Research Computing and Support	279,114
Research Analytics	175,244
Software Center	696,548
Administrative Services	4,542,286
Student Systems Services	917,503
Financial Systems Services	883,415
Human Resource Systems Services	640,584
Data Warehouse	750,199
Mainframe Support	689,435
Database Administration	661,149
Infrastructure Services	9,543,485
Identity Management	431,055
Server Acquisition , Maintenance and Support	2,310,280
Email, Blog, Wiki, Mailing Lists, Calendaring, and Instant Messaging	323,877
Web Services and Portal	506,219
Storage and Backup Solutions	617,008
Network Maintenance, Support and Security	1,761,099
Telephony	231,136
Physical Network Infrastructure Upgrade and Construction	222,883
Internet Services and Support	819,779
Information Security	325,317
368-HELP	883,831
Desktop Support	1,111,000
Strategic Services	594,152
Advanced Technology Architecture	204,434
Program Management Office	273,545
Strategy, Governance, Policies, and Communication	116,173
Total ITS Budget	18,159,843

Overall Satisfaction With ITS

2003-04	57%
2004-05	74%
2005-06	75%
2006-07	77%
2007-08	78%

Discussion:

Since 2002, when ITS published its first Five Year Strategic Planning Framework, we have periodically measured a variety of changes in services, and in our customers' perception of service.

The 2007-2012 Five Year Strategic Planning Framework published the outcomes measures of those progress indicators.

Here, we've updated those outcomes measures to represent change one year into that framework

Email services uptime (calendar year)

2004	98.68%
2005	99.63%
2006	99.91%
2007	99.70%
2008	99.80%

Average Simultaneous Wireless Users on the Case Network

(average month of March for each year)

2004	800
2005	1180
2006	1425
2007	1825
2008	1852

Number of Technology Enhanced Classrooms

2003	36
2004	80
2005	110
2006	150
2007	169
2008	175

Projects Using the Academic Research Cluster HPC

2005	10
2006	33
2007	37
2008	57

Average Call Answer Time at the Help Desk (PerceptiS)

(seconds by live person, average, month of March each year)

2005	36
2006	23.86
2007	21.69
2008	41.30

Total Commodity Bandwidth Consumption - Outbound (Mb/s)

2003	54
2004	100
2005	250
2006	275.55
2007	323.07
2008	262.57

Bloggers at blog-case.edu

2005	0
2006	1180
2007	1286
2008	1490

Total Wiki users

2005	0
2006	3383
2007	4151
2008	4797

Total Google Apps users

2007	0
2008	4142

Total DocShare users

2007	251
2008	485

Average number of users per day using Spark Instant Messaging

2007	0
2008	139

Total number of videos watched on Case YouTube

2007	0
2008	36,288

Average number of users per day using connect.case.edu

2007	0
2008	pending statistics

Number of scheduled events using ClevelandPlus in Second Life

2006	0
2007	6
2008	11 (As of July 31)

Number of active Data Warehouse Users

2006	0
2007	83
2008	78 (as of July 31, 2008)