



Program Summary

DoIT designs, manages and maintains NIU's email, calendaring and instant messaging applications for faculty, staff and students:

- faculty and staff use Microsoft's Office 365 (O365) suite of email, calendaring, audio conferencing, video conferencing, and instant messaging
- faculty, students, and staff have access to the full Microsoft Office suite for use at home and work: a \$400,000 annual cost savings to the NIU community;
- retirees have access to O365 email and calendaring;
- students use Google's Gmail, calendaring, messaging and full application suite;
- campus digital signage from Tighrope; and
- the Everbridge Notification System for mass and emergency messaging.

Together these applications offer a robust collection of communication tools to allow NIU's faculty, staff and students to communicate with each other, their community, and the broader world.

Criterion 1: Importance to University Mission / Operations

Importance to Mission

This program supplies the foundation for online communications at NIU and offers a comprehensive portfolio of communication channels to support the four pillars of the University's mission. Email, calendaring and instant messaging allow and encourage communications between students and faculty, across departments, from the central administration down to the entire campus community, and out to the broader NIU community.

In addition, leveraging a centralized digital signage infrastructure maintains programmatic visibility for students so they can stay engaged with their faculty and departments with up-to-date information. While there are a number of digital signage offerings across campus, DoIT's Tighrope application is the current enterprise solution that can be leveraged for deployment in all departments.

Importance to Operations

Without this enterprise program, NIU's ability to effectively communicate and organize people and work in support of the mission would be severely diminished. On any given day, over 225,000 (Office365 and Gmail) email messages are routed across our campus community; an additional 190,000 spam messages are blocked every day. At the same time, hundreds of campus meetings are scheduled via Office365 to coordinate programs, activities, projects, committees, Board of Trustee meetings, and more.

The emergency notification system is a centralized means to communicate campus emergencies to faculty, staff and students on an as-needed basis, depending on the circumstances of any single event. Together, these applications form the foundation by which the University conducts its communication and coordination activities, in support of broader institutional goals.



Program Portfolio

This program offers the underlying infrastructure and applications that support a significant portion of NIU's current and future program portfolio. The enterprise email service offers the conduit for the colleges to communicate directly to students, ensuring they remain informed of key aspects of their academic program. Faculty and college offices can maintain awareness among students about key academic program dates, classroom assignments, office hours, course information, and more. Likewise, email and calendaring enable NIU staff to coordinate work together, both internally and externally, to conduct the business of NIU.

1.4 Program Synergy – Discuss any synergy the program's functions have with other units on campus.

Over the past twenty years at NIU, there has been a slow consolidation of disparate email, calendar and digital signage infrastructure that has led to significant synergies by pooling all communications into an enterprise application suite. This promotes best practices within the applications and by users, and allows NIU to stay abreast of industry trends by using "best in class" applications like Office365.

As other NIU programs expand, they **should** leverage the existing enterprise messaging and communication program applications to help achieve successful outcomes. Other synergies include Microsoft SharePoint sites for collaboration; phone calls via Skype for Business; and delivered Outlook integrations with PeopleSoft and Blackboard.

Finally, this program integrates seamlessly into the Identity and Access Management program which provides for single sign-on capabilities for much of this application suite's infrastructure.

Criterion 2: Quality / Effectiveness

Functions and Services

The core functions and services of this program are:

- email via Office365 and Gmail: NIU's enterprise email service for faculty, staff, retirees and students;
- calendaring via Office365 and Gmail: NIU's enterprise calendar service for faculty, staff, retirees and students;
- instant messaging via Skype for Business;
- digital signage via Tighrope; and
- Emergency Notification System (ENS) via Everbridge: NIU's enterprise emergency notification service to faculty, staff and students.

Email, calendar and instant messaging represent the largest use among the products in this program, with hundreds of thousands of emails, meetings and instant messages per day. Digital signage and emergency notification systems are growing in popularity and function, and will be more heavily relied upon by the campus community primarily due to feature development and capabilities. For example,



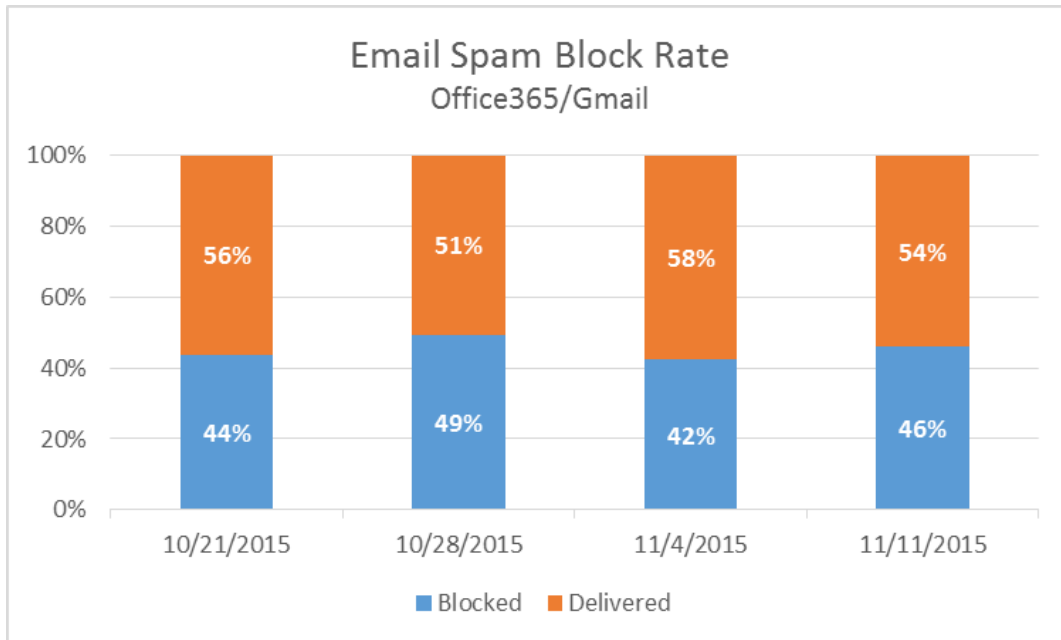
ENS is slated for a major upgrade that will expand its communication abilities and promote non-emergency use by departments for student communications and marketing opportunities.

Measures of Quality

1. System availability is measured against both planned and unplanned downtime.
2. Mean Time to Resolve (MTTR) measured by the time between the reporting and the resolution of an incident
3. Number of incidents per application
4. Spam-to-Email Block Ratio: total percentage of Spam blocked by DoIT's email spam filtering infrastructure

Evidence of Quality

1. Microsoft targets 99.90% availability, and according to published stats at its Trust Center, it has achieved 99.96% availability since January 2013.
2. Mean Time to Resolve (MTTR) O365 email incidents is 89 hours, with the great majority of incidents reported during the GroupWise migrations.
3. More than 210 support tickets have been received in the last 12 months. Approximately 93% of these tickets are request for assistance with the Outlook client configuration. The remaining 7% are nearly all Groupwise-to-O365 migration issues with resource calendars or accounts.
4. Spam-to-Email Block Ratio averages nearly one message blocked for every message passed.





Quality Improvement

For 15 months ending in June 2015, DoIT modernized NIU's email/calendar system by migrating all faculty and staff to Microsoft Office365. While the project was complex, the upgrade was necessary to eliminate GroupWise: a Novell product with a nearly-nonexistent market share. The project removed the institutional risk of using a dying application for such an important application.

Emergency notification is being upgraded to increase both capability and reliability, enabling all campus departments to use the tool for targeted messaging to their local constituent groups and for student leaders to communicate with student organizations. Additionally, the upgrade will dramatically increase the types of available communication channels: moving from only email-text-phone options to email-text-phone into social media, web applications and more.

Skype for Business, part of the Office365 suite, allows users to more fully communicate in an ad-hoc fashion. It offers instant messaging (IM) for quick discussions, but also audio and video calls to make it more personal. Skype may be leveraged in a more meaningful way as the campus deals with a new paradigm for reduced telephony service across the enterprise.

Criterion 3: Productivity / Efficiency

Scope of Program

DoIT performs these core duties to securely and appropriately deploy email and messaging systems to NIU faculty, staff and students:

- Long/short-term planning and management of infrastructure
- Infrastructure enhancements to increase reliability, availability and serviceability
- Integration with identify and access management for account lifecycle provisioning including email account creation, updates and deletion
- Technical support for Office365 and Gmail, including application deployment and litigation holds
- Integration with multiple feeds and organizations for digital signage content
- Installation and maintenance of digital signage and Everbridge mass notification endpoints
- Incident response and request fulfillment for the entire email and messaging infrastructure

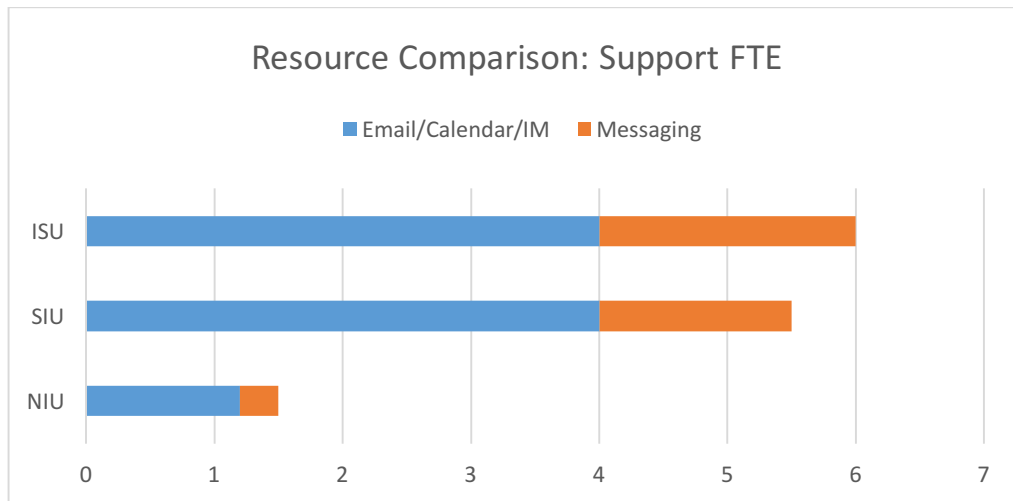
Productivity Comparison

Many similarly-situated universities have moved to cloud-based email and calendaring for their student populations in the past ten years. More recently, these same universities faced with the renovation and replacement of aging email servers and storage infrastructure have moved to cloud-based systems. Those with compliance requirements, especially for health information, have chosen the Microsoft Office365 suite. Southern Illinois University in Carbondale has just completed a migration from cloud-based Gmail to cloud-based Office365.



Resource Comparison

DoIT uses only 1.5 FTE to support the entire program portfolio. Similar organizations have more dedicated resources, typically maintaining a staff of 3-5 FTE. Even though this infrastructure runs in the “cloud” and doesn’t use NIU servers or storage, NIU would still benefit by hiring 1-2 additional technical staff to design, deploy and maintain additional capability and functionality in areas like SharePoint, custom email integrations with other enterprise applications, OneDrive functionality, and customizations to fully use OneDrive for shared desktops and telephony between campus users.



Cost and Revenues

This is not a revenue generating program. The overall program costs are approximately \$285,000 annually:

- Microsoft Office365 Products: \$30,000
- Google Gmail Products: \$15,000
- TightRope/Everbridge: \$65,000
- Other Licensing: \$10,000
- Server/Network/Storage Infrastructure: \$25,000
- Staff Costs: \$140,000

There is a significant decline in total costs of this program over the past three years, in large part due to moving the email server and storage infrastructure from on-premises GroupWise and NetMail to the Office365 and Gmail cloud offerings.

There are two potential drivers for cost increases:

1. the need for additional FTEs to provide back-up support and growth for this critical infrastructure;
2. additional FTEs to further centralize and modernize the ENS and Digital Signage infrastructure



Notwithstanding these increases, DoIT would still remain significantly understaffed compared to similar universities for the size and scale of infrastructure we manage.

Criterion 4: Internal & External Demand

External Demand

DoIT's email and messaging program provides the ability to communicate with external constituents on a 24x7x365 basis. Additionally, NIU's community of vendors uses this program to communicate with relevant NIU work groups in procuring of equipment and services for the institution. Finally, NIU donors communicate with NIU staff on a daily basis which provides for the opportunity to drive revenue/endowment growth across the university.

Internal Demand

A majority of the demand placed on this program comes from within NIU. Email and messaging applications are required by the business critical applications that nearly every employee at NIU needs in order to effectively perform their duties. Over 400,000 email messages are sent to NIU students, faculty and staff on a typical semester day, with 55% (225,000) making it through the institutional spam filters to be delivered in Inboxes. Office365 Calendaring has become the institution's primary means to coordinate meetings, events, rooms, conference bridges, and equipment across the enterprise.

While digital signage is not ubiquitously deployed across campus, it is a growing infrastructure at NIU that could be more widely utilized. The Everbridge Notification System is a key addition to this portfolio that, along with digital signage, allows NIU to effectively and accurately communicate content, messaging, and alerts to any or all campus constituents, regardless of time of day.

Criterion 5: Opportunity Analysis

Cost Savings Opportunities

Cost savings in this program can be achieved with the successful consolidation of multiple digital signage systems across NIU into one enterprise application. This would achieve all the obvious cost savings through reduction of duplication and all the obvious efficiencies gained by having only a single system to support.

Migrating faculty/staff from GroupWise to Office365 in 2014/2015 reduced DoIT's annual costs by over \$250,000. Moving students to Office365 would save at least \$30,000 annually by consolidating Gmail technology/infrastructure into Office365. Additionally, if DoIT were to shut down its legacy spam filtering in favor of Office365 capabilities/protection, NIU could save an additional \$10K per year. Not only would these changes save money, but they would also simplify NIU's overall architecture in support of such a critical service offering.



Future Revenue / Resources

There is potential to leverage the core applications within this program to be used within NIUNet Broadband Services portfolio for Community Anchor Institution consumption. This may provide the avenue to offset University costs using external funds for services from this program.

Improvement Opportunities

As described above, one key aspect to improve upon is the campus digital signage application. Consolidating NIU's different systems into a single common enterprise-grade system would streamline this particular application and service for the campus.

Moreover, finishing the migration of students completely into Office365 for email and calendaring will improve the underlying email architecture and enable better collaboration outcomes between students and faculty.

Opportunities in the Field

The Office 365 applications are already industry standard and comply with best practices, but NIU should mandate the move to a single, consolidated digital signage solution and consider whether the Department of Computer Science should continue to maintain its own email and calendaring solution.