Program Summary

DoIT provides secure, managed and monitored desktop and device support services for departments, classrooms, conference rooms, technology centers and labs. This support includes:

- hardware and software purchase advice, troubleshooting, and retirement services for more than 1,500 users and nearly 2,000 desktop, laptop and mobile devices running Windows, Macintosh, iOS and Android operating systems;
- media equipment installation and support for more than 350 media-equipped learning spaces and conference rooms plus 14 computer labs;
- remote management and troubleshooting for desktops and laptops;
- maintenance and deployment of a cloud-based solution (AnywhereApps) that allows allow faculty, staff and students access to more than 60 applications from any computer on the planet; and
- maintenance and upgrades for more than 100 digital signage devices throughout the NIU campus.

Criterion 1: Importance to University Mission / Operations

Importance to Mission

NIU is a traditional brick-and-mortar university and must meet both faculty and student expectations for modern classrooms and learning spaces equipped with highly reliable and available presentation and learning technologies. This program supports several hundred media-equipped classrooms ranging from the 121 high-end rooms subsidized by the Provost to classrooms managed by individual colleges to a variety of classroom labs and general purpose labs. Some faculty actually cancel class if the equipment fails, while others request that they teach only in classrooms equipped with specific technologies.

Importance to Operations

Desktop, laptops, tablets and smart phones are foundational devices for NIU’s daily communication, collaboration, reporting, and management activities. Professional-quality support of these devices requires a remote management infrastructure for more effective diagnosis and more efficient software upgrades and deployments. Desktop devices are also used in NIU’s call centers and are used by the Physical Plant to monitor and control their equipment, by Admissions to process student applications, and by every unit on campus to create documents, spreadsheets, presentations, and more.

Program Portfolio

When technical support for these devices is underfunded, or when equipment refresh is not provided there is a resulting negative impact on the rest of NIU’s programs. Old desktops are less secure when patches become unavailable and their inability to run new software and functionality means workflow is slowed down or even completely stopped.

Without moving actual staff into a central IT division, the desktop management practices at NIU should be standardized. Purchasing desktops, laptops and other devices should follow a flexible standard with an exception process managed by the local units. Software purchasing, licensing, and distribution should be standardized under a standard desktop management system that provides remote software installations and upgrades, license management, and security monitoring and remediation. Beyond these efficiencies and best practices, standardizing desktop management practices can save money. By requiring less storage for operating system images, software applications, and documentation.

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The institutional standard needs to be one person, one computer with room for an exception process to handle research or unique needs. Life cycles for computers are too long, with the standard expectation in most departments being that a computer is expected to last 10 years.

**Program Synergy**

The support for desktop devices and media technologies underpins any program that works with faculty in classrooms, staff in conference rooms, and students in lab spaces. It is unthinkable that a modern organization would not require the most up-to-date management techniques for these critical devices. DoIT also provides software to distributed IT units throughout campus via Microsoft SCCM. This allows those smaller units of campus to easily deploy software without the need for staff to package and test widely used software on their own.

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**Criterion 2: Quality / Effectiveness**

**Functions and Services**

DoIT provides secure, managed and monitored desktop and device support services for departments, classrooms, conference rooms, and technology centers and labs. This support includes:

- desktop and laptop support for Windows and MacOS as negotiated and described in signed Service Level Agreements with each department served;
- remote management and troubleshooting for Windows and Macintosh desktops and laptops using Microsoft SCCM and Parallels, including standard images for instructor workstations in support classrooms and labs;
- a cloud-based solution (AnywhereApps) that allows faculty, staff and students anywhere, any-time access to a large variety of Windows applications;
- media equipment installation and support for more than 400 classrooms, conference rooms, and ballrooms in more than 70 buildings;
- maintenance and support for 14 general access labs, all equipped with a standard set of applications and most including accessibility software for visually-impaired students; and
- consulting services for room design and media equipment purchases. Instructor workstations in

As more and more NIU students own laptops and mobile devices, DoIT is renovating older lab spaces, removing aging workstations and replacing them with charging devices, monitors for collaborative display and study, and more comfortable furniture.

**Measures of Quality**

1. Mean Time to Resolve (MTTR) incidents measured by the time between the reporting and the resolution of an incident.
2. Mean Time to Fulfill Requests measured by the hours required between the request having been made and ultimately fulfilled
3. Customer satisfaction
4. DoIT currently operates at a ~300:1 ratio of devices per full-time technician.
Evidence of Quality

<table>
<thead>
<tr>
<th>FY15</th>
<th>1. Mean Time to Resolve Incidents (hours)</th>
<th>Number of Incidents</th>
<th>2. Mean Time to Fulfill Requests (hours)</th>
<th>Number of Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop Support (Offices)</td>
<td>123.7</td>
<td>687</td>
<td>124.3</td>
<td>336</td>
</tr>
<tr>
<td>Classroom/Lab Support (First Responders)</td>
<td>16.8</td>
<td>347</td>
<td>1.6</td>
<td>314</td>
</tr>
<tr>
<td>Classroom/Lab Support (Tier II)</td>
<td>148.7</td>
<td>76</td>
<td>40.3</td>
<td>11</td>
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3. Customer satisfaction: Surveys are conducted every two years with faculty and instructors in supported classrooms and the outcome indicates they are satisfied or very satisfied with the service.

Quality Improvement

- Staff training occurs every year and as new staff or new technologies are added to the program.
- The newly-implemented Knowledge Base (kb.niu.edu) allows the Service Desk to resolve incidents without having to escalate to desktop and classroom support teams. Over 40 knowledge articles have been authored and published by this program in the past 6 months.
- Desktop Support currently uses a home grown, non-standard, ticketing system. This system is being replaced with an industry recognized one that will allow for Distributed IT units to stop using their unique ticket systems. When their users call the central Service Desk, incidents for those units can be easily routed within one unified, enterprise system.

Criterion 3: Productivity / Efficiency

Scope of Program

DoIT performs these core duties to securely and efficiently support more than 300 classrooms and support approximately 2,000 desktops, laptops, and mobile devices in NIU offices, classrooms, conference rooms, and labs:
- consults with users and departments on purchases of all desktops, laptops, instructional media technologies, and software, working with faculty and staff to determine any specialized requirements outside of standard hardware and software bundles;
- configures computers with a standard set of secure and supported software including a currently-supported operating system, office productivity applications, anti-virus software, and remote administration tools;
- configures and deploys audiovisual and multimedia equipment according to industry best practices and customer requirements;
- performs certified repairs for HP, Dell, Apple, and Epson devices regardless of vendor warranty;
- installs and upgrades software in response to user requests, changes to campus standards or security requirements, or to resolve problems; and
- properly retires outdated equipment according to university standards and/or manufacturer recommendations.

Productivity Comparison

Support for desktops, laptops, mobile devices and media technologies is generally located in the central IT Division in most universities. Ongoing staff participation in professional associations and visits to other universities a year ago provide opportunities for some direct comparisons. NIU’s classroom support practices, and even equipment
packages installed in classrooms, are quite similar to those at peer institutions. NIU’s collaborative learning technologies and BYOD connectivity lag behind those of other universities recently visited by NIU staff. NIU’s smart classrooms and equipment are on par with peer institutions. The general trend over the last ten years had been to add classrooms, but allow retirements and transfers to reduce staff. The past year, however, there was a decrease in funds available for the audiovisual and computer equipment refurbishment plan. This has required us to do more with less and keep most hardware past the recommended life cycles. Outside the smart classrooms, the several hundred rooms owned by departments, schools, and colleges have comparatively insufficient spares for hot swap replacement and are refurbished far less often than in the sample of peer institutions.

Resource Comparison

Newly purchased tools such as Microsoft’s SCCM, Parallels, and Secunia allow for support of more users per staff member. Before these tools, DoIT staff supported 200 users per FTE; after these tools are fully implemented, this ratio will increase to 300 or more users per FTE without sacrificing quality or response times.

Of course, the rapid response time for faculty teaching in supported classrooms requires additional FTE: three dedicated technicians, a lab coordinator, and dozens of students provide immediate service as first responders.

Cost and Revenues

DoIT provides different levels of support for desktops/devices. These criteria described below can be compared favorably against any other IT support unit at NIU. A comparison with Best Buy’s “Geek Squad” in DeKalb demonstrates the cost-effectiveness of this DoIT program. For example, the Geek Squad sells online email troubleshooting for a one-time $99 charge, in-home consultations for $99, on-site device setups for $99, and online virus and spyware removal at a flat rate of $149.

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<tr>
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<th>Description</th>
<th>Cost</th>
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| Advanced       | • User may have admin rights on the computer with approved business justification OR  
                 • System contains complex software that requires special management, installation and support OR  
                 • System has locally attached printer or scanner | $ 600/year      |
| Managed        | • User does not have admin rights on the computer and the system is managed with a desktop management system (i.e. SCCM or its equivalent) OR  
                 • All changes (configurations, software/hardware installs, patching, security) made to the system are handled by DoIT | $ 400/year      |
| Public         | • Designed for labs and classrooms, support is generally a swap from inventory funded by Customer OR  
                 • No troubleshooting is performed and a non-working/degraded system is exchanged for one with a new image | $ 240/year      |
| Mobile Device  | • Support includes set-up and configuration for tablets or cellphones         | $ 200/year      |
| Printers       | • Support includes installing networked printers and troubleshooting network connections  
                 • Support does not include cost of print / printer supplies  
                 • Printer repairs will be escalated to an approved vendor. | $ 0/year if printer is managed through NIU’s vendor agreement |
Criterion 4: Internal & External Demand

External Demand

Desktop and media technologies support are not currently available to external users, though DoIT often supports multimedia needs for events for applicants and parents.

Internal Demand

All faculty, staff, and students use personal computing devices now more than ever, with a growing trend toward mobile devices. Only a few years ago, most users had only a single device that required desktop support; now many have two or more devices that are able to send and receive email, take notes during lectures, even take online tests. DoIT staff are also called upon to consult on or support emerging technologies and a wide variety of Bring Your Own Device (BYOD) technologies.

Most NIU faculty use desktop and media technologies to help them teach in hundreds of classrooms. The results of a recent faculty survey showed that 75% of respondents believe smart classrooms (computer and presentation media equipped classrooms) are “very important to your style of teaching,” that they use the computer and projection equipment “very frequently,” and that the document cameras, sound systems, and video players are used “frequently.”

Some NIU faculty and the Disability Resource Center request additional media technologies to assist students with special needs. For example, closed caption decoding is enabled in presentation technologies to allow the hearing impaired to read the words they cannot hear. The Americans with Disabilities Act is an external demand that may prompt the use of additional assistive listening technologies or hardware and software tools to assist students who have impaired vision.

Criterion 5: Opportunity Analysis

Cost Savings Opportunities

DoIT has improved overall response time over the past decade by centralizing desktop staff and adopting standard management practices. Total centralization of desktop support at NIU is neither possible nor desirable. The practical reality is that even with a fully-central desktop support approach, teams focusing on the unique needs and geographic locale of different schools or buildings will still be formed in order to serve customers better.

The main objective is to centralize management practices by implementing common images, common management tools, centralized directory services, and common upgrade approaches.

However, some centralization in staffing must occur. An IT shop of only one person cannot provide coverage to the department while she is on leave or in training. Moving this person into the pool of DoIT support staff would allow that NIU department to take advantage of a team of resources with differing levels of expertise and experience, all of whom abide by security protocols and can take on the risk of security compliance with federal and state regulations.
Future Revenue / Resources

DoIT is renewing and renegotiating Service Level Agreements (SLAs) with campus departments for desktop and device support. In many cases, existing SLAs are more than five years old and functioned as detailed bills for service and not a full description of services offered. At only $400 per desktop per year for basic services, DoIT can beat the cost of hiring distributed staff or outsourcing desktop support. Generating this “revenue” for DoIT will yield cost-savings across the university.

There are still several colleges and departments who purchase and support their own media technologies in classrooms and conference rooms. NIU could save money by centralizing this hardware and software support within DoIT and gain an added benefit of more readily available spare equipment that could be quickly and efficiently swapped out after a failure.

Improvement Opportunities

All desktops and laptops in classrooms, conference rooms, labs and offices, whether supported by DoIT staff or not, should be remotely managed by Microsoft’s System Center Configuration Manager (SCCM). Remote management provides quick, consistent and licensed software deployments and allows technicians to support more users.

Even if support for media technologies in classrooms or conference rooms is not centralized, all departments who manage their own spaces should use RoomView, DoIT’s purchased software for real-time remote control and management of classroom media equipment.

Opportunities in the Field

The skills of the media support staff have been reduced overall as higher-skilled engineers have retired or otherwise left the university. With media and desktop technologies converging, NIU can still expect state-of-the-art classroom design and support by funding additional positions and newer, less-expensive technologies. Until more funding is available, classrooms can be maintained, but not enhanced with the latest presentation and learning technologies.