



Project Name: Institutional Print Management	Date Submitted: 13 April 2015
Customer/s Affected: NIU students, faculty, staff	Prepared by: Brian Thompson / Marisa Benson

INTRODUCTION

All projects that require more than 1,000 person hours of effort OR have an estimated budget greater than \$20,000 must begin with a business case. This document is not the final description of customer requirements nor the final budget quote. A business case is a high-level description that aids governance bodies, advisory councils, and/or DoIT leadership in approving and prioritizing work.

OVERVIEW

DESCRIPTION (what you want to do) *Describe what the project will accomplish; highlight the overall business goal or purpose.*

This project will redesign and implement a campus-wide managed print solution for departments that agree to track and manage their print output from a variety of devices (desktops, laptops, and mobile devices) to a variety of devices (fax machines, copiers, and printers).

The project will be managed in two phases:

- **Design:** The project team and additional campus resources will research requirements for managing output and devices, models for charging for output and supplies, enhancements and wider deployment of electronic document processing with OnBase, and the policies and processes to implement digital signatures. This phase’s final deliverable is a recommendation that will include a list of required policies and a description of a managed solution that also includes recommendations for a tiered support model and a cost/funding model;
- **Implementation:** This phase begins with discussion and approval of the recommendation by IT governance committees and other campus approval bodies. This phase ends with an implementation of the approved solution.

JUSTIFICATION (why you want to do it) *State the problem, issue, or opportunity to be resolved or created by this project*

Currently, there is a mix of options for print/device management, supported by different departments within NIU.

Current Management Options

1. **Huskie Prints / AnywherePrints:** The Huskie Prints office (copiers@niu.edu) is in the Division of IT’s (DoIT’s) Document Services department and manages the AnywherePrints program. Built on the Pharos print management solution (pharos.com), users print from their own device to more than 50 multi-function print/copy/fax devices (MFD’s) across campus (doit.niu.edu/doit/copiers/copier_location.shtml). Users may pay with their departmental credit cards, Huskie Bucks debit cards or a courtesy card.
2. **Novell iPrint:** DoIT also supports managed desktop and mobile print management through Novell’s iPrint Appliance (novell.com/products/iprint/). This solution supports Active Directory and allows print drivers to be remotely installed on managed Windows workstations. The most recent upgrade for the software and appliance was \$10,000. Approximately .15 FTE support this solution’s back-end infrastructure.
3. **Distributed IT Support:** Some colleges, divisions, and departments manage their own printers/devices without using the AnywherePrints or the iPrint options.

Current Device Support and Repair

1. **Gordon Flesch (GF) Contract:** In 2013, Gordon Flesch Company, Inc. (gflesch.com) won an RFP to provide print services to NIU. This contract provides and supports Canon MFD’s at no up-front cost, then charges a cost per image: \$.0322/page for black/white; \$.045/page for color.



2. Printer Support and Repair: DoIT's Desktop Support team supports HP printers and makes a best effort to support non-HP printers not already covered by the Gordon Flesch contract. Printer repair services are offered via Service Level Agreements (SLAs) between DoIT and NIU departments who pay for parts only. NIU departments without an SLA may contract with DoIT Desktop Support for labor at \$40/hour and parts.
3. Distributed IT Support: Some colleges, divisions, and departments purchase, support and repair their own printers/devices.

Current Inventory and Estimated Annual Costs: \$1,709,922

To aid NIU in making cost-savings recommendations for reducing both the number of print devices and the volume of printed pages, DoIT asked Gordon Flesch (GF) to undertake a university-wide inventory of print devices and their meter readings. As part of their contract, GF is expected to provide insight and recommendations to ensure that the best solutions for campus are offered. NIU exercised this option and GF staff completed this work at no additional cost to NIU. DoIT staff accompanied GF staff during the initial discovery and reviewed the details as each building was logged and mapped to ensure both the authenticity and accuracy of the data collected. DoIT also used Pharos to identify both networked and locally-connected printers to verify many of the mapped devices and their volume of output.

GF's February 2015 report documented 3,126 devices in 75 buildings, but did not include the ~ 350 printers currently managed through AnywherePrints by Gordon Flesch for student printing. Of these 75 buildings, a full mapping exercise was completed and verified on 12 buildings (Altgeld, Barsema, Engineering, Founders, Gabel, Holmes Student Center, Latino Center, Lowden, Swen Parson, Wellness-Literacy, Williston, Wirtz).

These twelve buildings contained:

- 901 print-imaging devices: 674 black/white; 227 color;
- at least 7 different manufacturers: Canon, HP, Ricoh, Brother, Samsung, Minolta, and Fujitsu;
- average age of devices = 7.5 years;
- a mix of networked, local and USB-connected printers: a substantial portion printed fewer than 100 pages/month; the most-used device printed 32,614 pages/month;
- at least 295 different cartridges in use, many purchased independently of NIU Procurement Services.

The estimated annual spend for these 901 devices in 12 buildings is \$492,630 or a rough estimate of \$547/device.

- annual device cost = (average unit cost/years in service) x number of units
 - Every device's make and model was logged, with the Manufacturer's Suggested Retail Price (MSRP) determined using industry standards. Devices ranged in MSRP cost from \$90 to \$6629. The average device cost is different for every building, but on average the MSRP is approximately \$650. With an average 30% educational discount applied, the average is approximately \$460.
 - $(\$460 / 7.5) \times 901 = \$55,261/\text{year}$
- annual black/white page cost (674 devices) = annual volume x .036 (industry average cost that includes service/parts)
 - $(629,585 \text{ pages} \times 12 \text{ months}) \times .036 = \$271,981/\text{year}$
- annual color page cost (227 devices) = annual volume x .10 (industry average cost that includes service/parts)
 - $(88,066 \text{ pages} \times 12 \text{ months}) \times .10 = \$165,388$

Multiplying the total number of 3,126 devices by \$547 yields a rough estimate of \$1,709,922 in annual print costs in NIU's 75 buildings.

Potential Annual Cost Savings: \$700,224 (41% savings)

Brand consolidation of devices, supplies and service could realize immediate cost savings for departments due to volume purchases and service contracts. IT staff in both DoIT and distributed departments could also leverage centralized management techniques to reduce their time spent on supporting a large mix of devices and supplies.

Moreover, expanding our current vendor contract or renegotiating a similar contract with a new vendor could yield



annual savings. For example, expanding the current Gordon Flesch contract to the 12 mapped buildings with their 901 devices and current print volume would cost \$290,828/year or an average of \$323/device/year. This represents a savings of \$255,661/year:

- annual device cost = \$0
- annual black/white page cost: 629,585 pages x 12 months x .0322 = \$243,272 / year
- annual color page cost: 88,066 pages x 12 months x .045 = \$47,556 / year

If the current vendor rate were calculated against the total of 3,126 devices on campus, the total annual spend is roughly estimated at \$1,009,698, representing a total annual savings around \$700,224/year

GOALS & OBJECTIVES <i>Describe the business outcomes, highlighting how they support business needs.</i>	
<ol style="list-style-type: none"> 1. Achieve cost-savings for all university offices by: <ol style="list-style-type: none"> a. reducing the number and types of print devices and the subsequent reduction in support costs and supplies; b. moving to electronic forms/workflow and paperless processes; c. replacing unmanaged printers and copiers with managed devices that track usage (even if that usage is not charged directly to the user) to allow users to monitor their usage levels and ultimately reduce print volume. 2. Ensure convenient access to print devices by implementing monitoring and reporting tools that allow us to more rapidly deploy and decommission print devices where they are most heavily used. This convenience could be measured and limited by walking distance to the nearest managed device. 3. Improve the quality and reliability of print devices by ensuring access to devices that have the ability to print, copy and scan documents at higher speeds and resolutions than are available from consumer-class inkjet and laser printers. 	
ORGANIZATIONAL CHANGE MANAGEMENT (OCM)	<i>At a high level, identify whether this project will effect organizational change in business processes or structure across the enterprise, in a specific organization, an explicit set of departments or a limited number of users (minor)</i>
Identification	Description
Electronic Processing	Many campus units rely heavily on paper copies when processing and approving requests of various kinds. In order to achieve cost-savings and sustainability measures, electronic processing and digital signatures should be in place where possible. This will effect change in several business processes or job duties and may require technical assistance in securely setting up web forms, document imaging workflows, etc.
Removal of Printers in Individual Offices	Changing to multi-function print devices (MFDs) will result in fewer devices in each building. Individual printers in individual offices would be retired, except as approved under the exception policy to be created/approved by this project. Entering individual PIN codes on the MFDs will provide the required security needed to print confidential documents in a more public space. This may result in a marginal reduction in convenience for some staff, but that reduced convenience would not exceed an agreed-upon walking distance to the nearest managed device.
Adherence to Procurement Standards and Safeguards	If the purchase of all print devices and supplies becomes subject to policies, procedures and safeguards implemented by NIU's Procurement Services, then individual staff and departments will be giving up their decision-making autonomy in this area and will also lose the convenience of purchasing devices and supplies directly from a retail outlet.

PERFORMANCE MEASURES	<i>Describe performance measures to gauge what will constitute project success in key process or service areas.</i>
Key Process/Service	Performance Measures
Print Volume	As compared to the figures gathered during the initial mapping exercise, the annual number of both black/white and color pages printed in the 12 mapped buildings decreases by ≥ 10%.
Electronic Document Processing	90% of colleges and departments that agree to implement the managed print solution will add at least one new OnBase form within 6 months after project close. As part of the request for the



	OnBase form, the school or department will estimate the amount of print volume to be reduced.
Customer Satisfaction	Reissue the customer survey deployed in Phase 1 (see below) to compare initial concerns with outcomes 6 months after project close. An overall positive response will indicate project success.
Print Devices and Supplies	A re-map of the 12 initially-mapped buildings will show a decrease in numbers of print devices and a decrease in number and types of toner cartridges.
	At the start of the project, create a baseline report of how many printers and related supplies are purchased within Procurement’s purchasing system and by individual PCard holders. The number of PCard purchases should decrease in a report created 6 months after project close.
AFFECTED SERVICE/S	<i>What IT services will this project affect? If the project is to implement or replace an application, list which services the application may fall under. If the project is to implement a new service, identify a potential name and service owner.</i>
Service	How Affected?
Print Services	DoIT should consolidate Tier 1 customer-facing print/printer support under a single department within DoIT. Tier 2 desktop support staff should support the print devices by basic troubleshooting skills and deploying print drivers through SCCM. Tier 3 systems/server administrators should maintain the print infrastructure.
Desktop Support	If this project recommends a campus-wide managed print solution that includes printer repair, then DoIT’s Desktop Support staff will no longer repair printers as part of their service offering. Desktop Support staff would ensure that all devices are imaged with the proper print drivers and would still support troubleshooting efforts with print queues. The vendor contract must specify the troubleshooting steps and techniques that DoIT staff and other NIU distributed support staff should undertake before escalating a printer incident to the vendor.
Document Imaging	Along with Print Services, this service must be expanded to fully incorporate authenticated and secure digital signatures that are acceptable in all campus units.
DELIVERABLES	<i>At a high level, describe the product/s, process/es, or service/s this project will produce</i>
<p>Phase 1:</p> <ol style="list-style-type: none"> 1. Choose a method by which to validate and then validate the cost-savings assumptions from the Gordon Flesch inventory assessment. 2. Create and deploy a customer survey to gauge current satisfaction and any future desires for print management, including questions about print v. electronic document processes; top concerns about a managed print solution; convenience to print devices; etc. 3. Research options for print management: <ol style="list-style-type: none"> a. Decide whether to renegotiate the Gordon Flesch contract signed in 2013 as part of this project or to keep it in place until the January 2016 deadline. b. Consider Pharos Beacon as a solution for centralized monitoring of print devices, including locally-attached printers c. Decide whether to decommission Novell iPrint as a feature of the managed print service. d. Consider Adobe LeanPrint for individual monitoring of print devices. e. Consider whether to replace current swipe devices with prox devices. 4. Taking into account the campus requirements, project constraints and the options available, recommend a campus-wide print offering that includes both device and output management. This offering should include a price guide listing price per standard device as well as price per page and any additional costs. <ol style="list-style-type: none"> a. The recommendation will be reviewed by the IT Planning Council, then discussed for potential approval by the IT Steering Committee. 5. Regardless of the recommendation for a managed print solution, draft a policy and plan to diminish the use and deployment of individual print devices in campus offices, including a revalidation of the total cost of ownership for such devices and the documentation of valid exceptions to the policy. <ol style="list-style-type: none"> a. The policy and plan will be reviewed and discussed by the IT Planning Council and the IT Steering Committee, with final approval coming from the Cabinet. 	



Phase 2:		
<ol style="list-style-type: none"> 1. Renegotiate any applicable contractual agreements with device and supply vendors. 2. If approved, implement the campus-wide managed print solution, including required infrastructure, servers, and swipe or prox devices. 3. Create an exception policy to allow users to retain individual printers. This policy should include common reasons for exceptions and suggested approval mechanisms. 4. Create and document a three-tiered support model that incorporates both central/distributed IT support and vendor support. 5. Following the approved policy and plan, remove individual print devices from all DoIT-supported campus units before project close. 		
ASSUMPTIONS	<i>List the assumptions regarding DoIT products/services affected by the proposal. Assumptions are believed to be true(70-80% accuracy) and the project will be managed accordingly.</i>	
<ol style="list-style-type: none"> 1. We assume that the industry standard costs used in calculating our current annual spend are accurate. 2. NIU's service cost calculation is generally incomplete. A complete service cost includes salary and benefit expenses for both distributed and central IT staff who provide printer support, the iPrint infrastructure, maintenance kits for out-of-warranty printers, DoIT labor costs for out-of-warranty repair, out-of-warranty replacement parts, and the cost associated with purchasing, stocking and distributing printers, parts, and supplies. 3. The current Pharos contract is bundled in with the Gordon Flesch contract at \$.003/impression. If we rolled out Pharos across campus as the managed print solution, we would see no cost escalation. 4. Pharos was implemented for student use only. If it deploys to faculty and staff, then it must allow for more than one User Login Account to be associated with a single EMPLID so that a user can choose which account to use for a particular print job. 5. Decommissioning the NIU Bookstore cards is out of scope for this project. 6. Revisiting the use of Blackboard Transact as a billing engine is out of scope for this project. 7. To ensure that the project meets its objective of reducing print volume, a minimum print volume should not be a condition of any vendor contract. 8. The rate model for OnBase will change to discontinue the current practice of charging current OnBase users for additional forms. 9. The average cost of printers in the 12 mapped buildings is the same as the average cost of printers for the campus as a whole. 		
CONSTRAINTS	<i>List the limitations or constraints regarding DoIT products/services affected by the proposal. Constraints are absolutely true(100% accuracy) and cannot be changed by the project. They generally concern technology, budget issues, schedule, or business processes.</i>	
<ol style="list-style-type: none"> 1. Any print solution should be fully supported on Windows, Mac, and Linux platforms and iOS/Android devices. 2. Any print solution that requires card swipes must use the existing OneCard system. No additional print cards will be deployed. 3. A print solution must be able to bill a student's Bursar account. 4. The current Gordon Flesch contract is a 1-year agreement with 9 years of renewal, upon review. NIU is currently in its third year and the renewal was approved by the Board of Trustees in February 2015. We must have a decision whether or not to continue with Gordon Flesch by January 2016. 5. Any campus-wide print solution must incorporate a fully-supported environment of test, QA and production servers. 		
DURATION	<i>Estimate (plus/minus 50%) the duration of the proposal.</i>	
Phase 1: 3 months		
Phase 2: 9 months		
PHASE 1 RESOURCE REQUIREMENTS	<i>Estimate (plus/minus 50%) the level of effort.</i>	
Roles for Project Time & Maintenance	DoIT Hours	Non-DoIT Hours
Project Manager (30%)	150	0
Business Analyst (Document Services)	300	0
Developer / Testing	100	0



Business Case

Desktop Support	300	0
Print Infrastructure System Administration	100	0
Customer Resources (Research / Testing)	0	500
Total Hours for Phase One =	750	500
COST	<i>Estimate (plus/minus 50%) the cost of the proposal. Include description of how costs were obtained.</i>	
Phase 1 has no associated costs. The final recommendation for a campus-wide print solution will include <ul style="list-style-type: none"> • all hardware, software, and training costs; • a sustainable funding/cost model that includes billing procedures; and • a staffing/support model that requires no additional staff. 		

ALTERNATIVES	<i>Describe alternative options, including the option of not implementing the project at all and at least one alternative. State the reasons for not selecting each alternative.</i>
Alternative Option	Reason for Not Selecting Alternative
Status Quo	The current model is highly decentralized, even within DoIT. Faculty and staff print usage is unmonitored and unmanaged, leading to a high cost of supplies and support.

The following individuals provided input and/or a review of this Business Case:

- Marisa Benson
- Al Crowley
- Sylvia Gorman
- Tim James
- John Kearsing
- George Raetzke
- Brian Thompson
- Fred Williams

By signing the Business Case you are in agreement with the preliminary estimates for duration, scope, anticipated costs, and the project analysis as described herein. All signatories to this agreement acknowledge that actual costs and duration will be different from the preliminary estimate.

NAME	SIGNATURE	DATE
Nick Choban	Electronic signature via email	4/15/15
Matt Parks	Electronic signature via email	4/15/15
Brett Coryell	Electronic signature via email	4/15/15