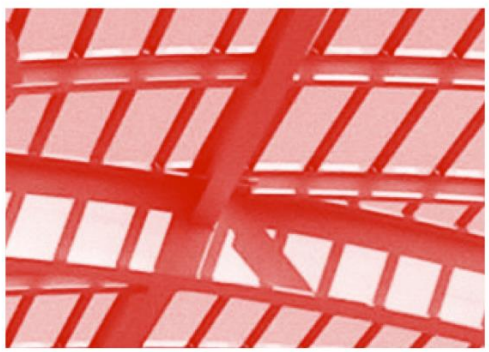
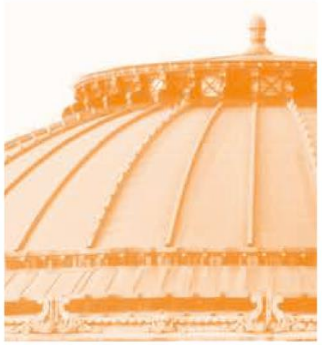
15.0 Process Invoice Feeders from Departments

October 17, 2016





UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN • CHICAGO • SPRINGFIELD

Copyright

APPROPRIATE USE AND SECURITY OF CONFIDENTIAL AND SENSITIVE INFORMATION

Due to the integrated nature of the various Human Resources, Finance and Student modules in ***Banner*** and the reporting information in the Enterprise Data Warehouse (EDW), you may have access to information beyond what you need to perform your assigned duties. Your access to ***Banner*** and the EDW has been granted based on business need, and it is your responsibility to ensure the information you access is used appropriately.

Here are some reminders of good data stewardship to help you carry out your responsibility:

- Do not share your passwords or store them in an unsecured manner. Do not leave your workstation unattended while logged on to administrative information systems. You are responsible for any activity that occurs using your logon ID.
- Do not share confidential and sensitive information with anyone, including colleagues, unless there is a business reason.
- Retrieve printed reports quickly, and do not leave the reports lying around in plain view.
- Secure reports containing confidential and sensitive information (e.g., FERPA, EEO, or HIPAA protected data).
- When disposing of reports containing confidential or sensitive information, shred the documents in a timely manner.

Your responsibilities regarding the protection and security of administrative information are outlined in the University of Illinois Information Security Policy for Administrative Information and Guidelines posted at https://www.aits.uillinois.edu/reference_library/i_t_policies. Any violation could subject you to disciplinary action, which could include dismissal or, in those cases where laws have been broken, legal action. You should have signed a compliance form that indicates you have read, understand and agree to comply with the University's Information Security Policy for Administrative Information. If you have not already signed the compliance form, please see your Unit Security Contact, who is responsible for maintaining these forms.

TABLE OF CONTENTS

Overview

The Process Invoice Feeders From Departments process exists to provide an easy way to process mass amounts of payment transactions for departments that have a specialized system or condition. The purpose of the process is to leverage existing data to help facilitate a large number of payment transactions or specialized conditions from a campus unit to be uploaded into the Enterprise Resource Planning (ERP) system of record, which is currently Banner.

There are four types of invoice feeders: spreadsheet feeders, auto-feeders, messaging/API feeders, and internal Banner processes for accounts receivable refunds. Once a feeder request is determined to be a candidate for the messaging/API feeder type, it becomes out of scope for this process since each messaging/API feeder situation is highly customized and doesn't follow a standard practice. The accounts receivable refunds are also not included in the process because they are internal to Banner. Also excluded from the scope of this process are: payments from Accounts Receivable, Accounts Payable, or Human Resources, journal vouchers, purchase orders, encumbrances, payment-for-service, and employee reimbursements, since they may not be processed by an invoice feeder.

Also worth noting is that the invoice feeder process varies only by feeder type, not by campus.

(List the process, describe the process, and list any Mandates – State, University, and Professional)

University Policy Symbol –

Process Executive Summary

Business Process

The Process Invoice Feeders From Departments process exists to provide an easy way to process mass amounts of payment transactions for departments that have a specialized system or condition, and leverage existing data to help facilitate a large number of payment transactions or specialized conditions from a campus unit to be uploaded into the Enterprise Resource Planning (ERP) system of record, which is currently Banner.

There are four types of invoice feeders: spreadsheet feeders, auto-feeders, messaging/API feeders, and internal Banner processes for accounts receivable refunds. Once a feeder request is determined to be a candidate for the messaging/API feeder type, it becomes out of scope for this process since each messaging/API feeder situation is highly customized and doesn't follow a standard practice. The accounts receivable refunds are also not included in the process because they are internal to Banner. Also excluded from the scope of this process are: payments from Accounts Receivable, Accounts Payable, or Human Resources, journal vouchers, purchase orders, encumbrances, payment-for-service, and employee reimbursements, since they may not be processed by an invoice feeder.

Also worth noting is that the invoice feeder process varies only by feeder type, not by campus.

Current Process Activities

Approach

The current state process activities were mapped by the Subject Matter Expert, SME, and project process team. A SIPOC diagram was created to capture the tasks executed by the department units. The SME project team identified opportunities for improvement and brainstormed potential solutions. The current state was presented, issues were identified, and recommendations were discussed at customer focus group meetings in the University System. The process report was presented to the Source2Pay Director Council were they ranked the proposed recommendations for implementation.

Key Findings

The following are the opportunities for improvement:

System

- Areas of overall issues related to the applications used
- File format issues related to the feeder file format
- Response time issues related to the system response time

Communication

- Issues related to lack of communication or advertising of the feeder process

Training

- Issues related to training on the output of the process
- Issues related to training on the inputs to the process

Delays

- Issues related to delays in establishing a new feeder

Policy

- Issues related to rules for the feeder process

Other

- Issues related within a department unit which is outside of the control of UPay, AITS, or OBFS – BSS

Improvement Recommendations

The following are the recommendations for improvements:

1. **Advertise the availability of the invoice feeder to university departments.** Describe the feeder process, benefits, and criteria on the OBFS website Procedures page, under "Payments to Vendors". Include details on required approvals, including the completion of an SLA.
2. **Create a centrally located, updated invoice feeder contact list accessible by UPAY, BSS, and AITS.** Use department contact information provided on SLA and ensure that both BSS and UPAY communicate their separate feeder contacts.
3. **Update the SLA template for all feeder types to include pointers directed at the "department issues" that frequently arise.** Pointers should include: no account/password sharing, notification of stopping the feeder, notification of an off-boarded person from the SLA contacts.
4. **Publish the high-level process for different types of feeders.** This would indicate the order of steps, not the time it takes to complete each step.
5. **Create and distribute an operational fact sheet surrounding feeder procedures.** This operational sheet would be intended for departments that utilize the invoice feeders.
6. **Develop different levels of SLAs depending the type and duration of the feeder.** This includes a re-evaluation of the SLA process including length of time that the SLA is valid.
7. **Convert trusted submitters of spreadsheet feeders to auto-feeders.** Would need to ensure that the campus unit(s) in question know how to create the text file and they would need a new feeder user ID.
8. **Implement an electronic workflow for the SLA approval process.** This will include an analysis of available workflow tools. The purpose of this is to reduce the amount of waiting induced by using paper forms and obtaining wet signatures.
9. **Analyze the fields being used in the feeder file to determine what should be retained, dropped, or added during implementation of a Front End Feeder.** The feeder currently asks for the minimum data in order to process a feeder. Example of field to add: units would like an invoice date field.
10. **Develop a tool that campus units can use to facilitate moving from a spreadsheet feeder to an automatic feeder.** The conversion tool for units would be similar to UPAY's conversion Access file.
11. **Implement electronic invoicing with the appropriate approval workflow prior to payment of the vendor.** This tool would be a preference in a future system and would alleviate the need for an invoice feeder since vendors would be able to electronically submit invoices that would be routed for approval and paid all in one system. This would occur via some type of electronic data interchange method. The tool should be based on the business requirements gathered.
12. **Convert auto-feeders with FTP to a messaging-type feeder.** The messaging-type feeder is similar to Capital Programs' feeder. Identify other systems being used by campus unit that could take advantage of a messaging-type feeder but aren't using any type of feeder.
13. **Convert auto-feeders to use the Front End Feeder.** One expected benefit of the Front End Feeder is that it would produce an output file 30 minutes after submission instead of overnight.
14. **Include the ability for the campus unit to feed data directly into the system of record to upload one or many invoices.** This ability would be a recommendation for a future system, where campus units would like to be able to electronically enter invoices and have approvals and payments all integrated in the same system. UPAY would still expect the ability to control the input flow.

15. **Ensure that service date information is on feeders.** External audit findings related to fiscal year-end cutoff indicated that UI does not have sufficient internal controls to ensure expenses are recognized in the proper fiscal year. Service date information on feeders is critical to fiscal year-end cutoff and the external audit.

Chapter 1: SIPOC Diagram

Brief description of chapter content.

Process Name	Date
[1.4.1.3 - Process Invoice Feeders From Departments]	7/8/2016

SUPPLIERS	INPUTS	PROCESS	OUTPUTS	CUSTOMERS
Who provides input to the process	***What*** goes into the process	***How*** the inputs are transformed to outputs	***What*** comes out of the process	***Who*** received the outputs of the process
Campus units OBFS – University Payables (UPAY) OBFS – Business Solutions & Support (BSS) University-related Organizations (URO) AITS	Payment information Feeder administration	Identify need for mass entry of transactions Approve feeder Train campus unit Test feeder Run feeder in production	Completed, approved invoice in Banner Response file ViewDirect reports	Campus unit OBFS – UPAY OBFS – BSS

Chapter 2: Suppliers

Suppliers are people or entities who provide input into the feeder process.

2.1: Campus unit

What they care about: Campus units care want their payments to be processed as quickly as possible. They also are interested in saving time (by not entering transactions individually through TEM) and leveraging data they already have to avoid double work.

An ever-evolving list of campus units who use feeder processes:

Spreadsheet feeder type:

UIC Kellison Refunds / Department of Pathology

UIC Hospital Patient Accounts

Kinesiology & Community Health

Wolcott, Wood and Taylor (WWT)

Office of University Counsel

UIC Department of Family Medicine

UIUC DIA: Carle or Bookstore

UIUC Office of Technology Management

UIC Office of Technology Management

UIUC PEDA/PSEBA Department of Public Safety

UIC PEDA/PSEBA Department of Public Safety

UIS PEDA/PSEBA Department of Public Safety

Peoria Medical Center

RK Dixon

Auto-feeder type:

UIUC Library

UIC Bookstore

Division of Specialized Care for Children

Hospital

UIC Library

Payroll

MSCI

State Clearing Transaction

Messaging/API feeder type:

iBuy

SUA

TEM

Capital Funding

When they care: Campus units care when they need payments processed, which is very frequently. The campus units are permitted to only submit one payment feeder either weekly, bi-weekly, or monthly depending on what was set up in SLA.

2.2: BSS

What they care about: BSS cares about implementing feeders accurately and efficiently. They also care about supporting units that have feeder process issues.

When they care: BSS always cares, but has a higher awareness during month end closing and fiscal year end closing periods.

2.3: UPAY

What they care about: UPAY is concerned with the completeness and accuracy of the data provided in the payment feeder. They also care that the unit is meeting the feeder constraints. UPAY is benefited when the units process as many transactions as possible that don't need to be verified for accuracy and legitimacy by UPAY.

When they care: UPAY cares when the feeder-eligible condition identifies itself, and for the duration of the feeder process. They care about validity of the data after the process terminates (if checks are returned, for example). They also care when processing the feeder file, and providing service to customers with a large amount of transactions to process.

2.4: AITS

What they care about: AITS is concerned with inaccurate data, since calls for help and corrections can become a highly involved process.

When they care: AITS is concerned about inaccurate data throughout the process.

Business Rules

The campus unit must be approved to submit a feeder file through the review process resulting in an SLA with UPAY.

If the campus unit is using an auto-feeder, the campus unit must have an approved BSS Production Support Service form.

Chapter 3: Inputs

3.1: Payment information

Inputs should be as described in the spreadsheet feeders template and the Invoice Feeders Template linked from the Banner Departmental Interface User Guide for auto-feeders.

3.2: Feeder administration

Training, reviews, guides, and templates

Business Rules

Campus unit must follow the Invoice Feeder Format rules and spreadsheet template.

Chapter 4: Process

The process defines how the inputs are transformed into outputs. The process results in a completed, approved invoice existing in Banner, as well as response files and ViewDirect reports.

4.1: Identify need for mass entry of transactions

A campus unit or UPAY determines that a campus unit has a specialized condition or specialized system that requires mass entry of transactions and would thus be a good candidate for a feeder process. Requirements are gathered by UPAY and potentially also by BSS if the situation is complex. A preliminary decision is made whether the need is sufficient for a feeder process. If so, a decision is also made whether the feeder should be a manual spreadsheet, an auto-feeder, or processed via messaging/API. If the need is not sufficient to meet the requirements of a feeder process, the process ends.

4.2: Approval

The approval process varies depending on the feeder format. If the campus unit's transaction scenario is simple, UPAY will perform a complete review of the requirements and determine if the scenario is approved for a spreadsheet feeder. If the scenario is not approved, UPAY notifies the unit of the denial. If the scenario is approved, UPAY notifies the unit of the approval.

If the campus unit's transaction scenario is complex, BSS will perform a complete review of the requirements and determine if the scenario is approved for an auto-feeder. If the scenario is not approved, BSS notifies the unit of the denial. If the scenario is approved, UPAY notifies the unit of the approval.

If the campus unit's transaction is complex and development is required, an Information Technology Priorities Committee (ITPC) project will be initiated and the approval process required by ITPC will be followed.

In spreadsheet, auto-feeder, and messaging/API scenarios, an SLA is created by UPAY, who will also execute the SLA. The SLA is signed by both the campus unit department head and the Assistant Vice President of Procurement Services.

4.3: Training

Training follows different paths depending on the feeder format. For the spreadsheet feeder scenario, UPAY provides a template and instructions to the campus unit. UPAY will also answer any questions the unit has.

For the auto-feeder scenario, BSS provides the Banner Departmental Interface User Guide to the campus unit, who then completes the BSS Production Support Service Form. BSS will answer any questions the unit has.

The messaging/API scenario is no longer addressed in the training or later process steps since each situation requires a highly customized plan and execution.

4.4: Test

The testing process varies by feeder format. For the spreadsheet scenario, a spreadsheet is provided by the campus unit. UPAY converts that file into a comma-delimited file and uploads it to the XFERDEV (development) server. The batch-processing software processes the file job, the output of which is reviewed by UPAY. If there are no issues with the test run, the process moves along to production. If there are issues, UPAY works with the campus unit to resolve them.

For the auto-feeder process, BSS assigns a system ID to set-up Banner. AITS creates a directory structure and security for the process in the XFERDEV and XFERPROD servers. The campus unit will create a comma-delimited file, places the file on XFERDEV, and the batch-processing software processes the job. BSS, the campus unit, and UPAY review the output. This process of uploading three different but similar (in scope, size, and transaction type) files to XFERDEV, running the process, and reviewing the output must occur successfully three consecutive times before AITS can schedule a change control and the process can move on to production. If there are errors, the campus unit will need to provide a corrected spreadsheet to XFERDEV.

4.5: Production run

After the spreadsheet and auto-feeder files have been tested, a production-ready version of the file is placed into XFERPROD by UPAY for spreadsheet feeders and by the campus unit for auto-feeders. The file is then picked up and run automatically by the Application Manager system. If the file does not abort, XFERPROD response files and ViewDirect error/control files are created by Informatica.

If the feeder is a spreadsheet, UPAY reviews these error reports and checks to see if there were any non-abort issues or errors with the transactions. If there were no issues, UPAY notifies the campus unit of their transactions' successful processing. If there were issues, UPAY identifies the cause of the errors and adds the Banner ID number (I number) to the file. They notify the campus unit of the errors, who determines where the errors occurred in their original file. If there are one or two errors, the unit can process the transaction(s) via TEM. If there were more than two errors, the unit will need to resolve the errors and submit a new correct file at the next spreadsheet feeder submission window (as specified in the SLA).

If the file did abort during the feeder's initial run via Application Manager, AITS first reviews the input file and the output log file. They fix any errors they can, and the reset the Applications Manager job on XFERPROD. If AITS cannot fix the issue, they delete the aborted process flow, then determine if the file was a spreadsheet or auto-feeder. For auto-feeders, AITS contacts BSS, who in turn contacts the unit. The campus unit will resolve the issue and place a corrected file on XFERPROD to re-run the file. For spreadsheets, AITS contacts UPAY. UPAY determines if they can fix the issue, and if so, they resolve it and place a corrected file on XFERPROD to re-run the file. If UPAY can't fix the issue, they contact the unit, who resolves it and submits a new (corrected) spreadsheet to UPAY. UPAY converts the spreadsheet to a comma-delimited file and uploads it to the XFERDEV server to run the process again.

Business Rules

The campus unit and UPAY will follow the conditions laid out in the SLA.

CAMPUS UNIT RIGHTS & RESPONSIBILITIES:

The campus unit:

- The campus unit will only process payments with the feeder that have been established in accordance with this SLA. All other invoices and reimbursements will continue to follow the process established under the TEM and Banner systems.
- The campus unit will observe all OBFS policies and guidelines as well as generally accepted accounting practices regarding the timeliness and accuracy of payments.
- The campus unit will be responsible to respond within two business days to employee inquiries as well as UPAY's inquiries regarding discrepancies, late payments, etc.
- No payments for services or employee reimbursements will be processed via the feeder.
- No vouchers for capitalized equipment, controlled equipment, rental agreements or purchases of goods and services requiring a contract may be processed via the feeder.
- Invoice data submitted via a feeder will contain a unique assigned Invoice number for tracking purposes within Banner.
- The campus unit's day-to-day operational coordinator for the SLA will be named.

- The campus unit's administrative coordinator for the SLA will be named.
- The campus unit will be responsible for the accuracy of the data in the invoice feeder. The campus unit shall provide access to supporting documentation sufficient for Payables to comply with existing policies and to determine compliance with the SLA.
- The campus unit must deliver relevant payment file based on the agreed-upon schedule from the SLA.

UPAY:

- UPAY will provide feeder documentation and training to the campus unit's staff.
- UPAY will provide Banner AP documentation and training to the campus unit's staff.
- UPAY day-to-day operational coordinator will be named/specified in the SLA.
- UPAY administrative coordinator will be named/specified in the SLA.
- UPAY will process the file in a timely manner (3-5 business days).

Chapter 5: Outputs

5.1: Completed, approved invoice in Banner

5.2: Response file

The response file is found on the output folder corresponding to the input folder used by the department to stage the feeder file located on XFERPROD. It contains a listing of the documents included in the input file along with their disposition (P or R). It also communicates the invoice number(s) back to the campus unit if they are letting Banner make the assignment instead of using the input file to do so.

5.3: ViewDirect reports

ViewDirect Control Reports are generated from BANPROD database tables loaded by the Informatica invoice load process. The data included in these reports include a summary of the input Credit Memo, Invoice Count and Invoice Total $ vs. validated Credit Memo, Invoice Count, and Invoice Total $.

ViewDirect Error Reports are likewise generated from BANPROD database tables loaded by the Informatica invoice load process. They include details of the transactions rejecting from the invoice load process (including the reason for the rejection) to allow for error research, correction, and resubmission.

Chapter 6: Customers

Customers receive the various output items of this process.

6.1: Campus unit

What they want: Their payment file processed

6.2: BSS

What they want: Accurate output, to be used when researching customer inquiries.

6.3: UPAY

What they want: Provide service for customers processing batches of 50-or greater transactions that do not need to be checked for accuracy and legitimacy.

Business Rules

Neither purchase orders, encumbrances, payment-for-service, nor employee reimbursements - goods and services may be processed by a feeder.

Chapter 7: Customer - Oversight Roles

6.1: University Audits

What they want: University Audits wants audit components defined in the SLA, evidence of security (who accesses system), and data integrity.

6.2: UPAY

What they want: UPAY wants data integrity compared to SLA (the information provided in the feeder matches the information defined in the SLA.

Chapter 8: Questionnaire for Current State Analysis

1. Why does the process exist?

The process exists to provide an easy way to process mass amounts of payment transactions for departments that have a specialized system or condition.

2. What is the purpose of the process?

The purpose of the process is to leverage existing data to help facilitate a large number of payment transactions or specialized conditions from a campus unit to be uploaded into the Enterprise Resource Planning (ERP) system of record, which is currently Banner.

3. What are the process boundaries (i.e., when does it start and end?)

The process starts when a department has a specialized system or condition and needs to make a payment.

The process ends when a completed, approved invoice exists in the ERP system.

4. What are the major activities/steps in the process?

See Chapter 4: Process (Ctrl-click to follow links)

5. What is the expected outcome or output of the process?

See Chapter 5: Outputs

6. Who uses the output of the process, and why?

See Chapter 6: Customers

7. Who benefits from the process, and how?

Campus units benefit from this process because it prevents duplicate data entry, and allows massive amounts of transactions to be processed more quickly, reducing the time spent on payment processes and minimizing the use of paper documents in the unit's payment process. Campus units also benefit from the timely payment to vendors.

UPAY benefits from this process because it results in a reduction in time taken to verify the accuracy and legitimacy of a given transaction, a reduction in the number of payments processed through the Travel & Expense Management system (TEM), and a reduction in duplicate data entry.

8. What information is necessary for the process?

See Chapter 3: Inputs

9. Where does that information come from?

See Chapter 2: Suppliers

10. What effect does that information have on the process and output?

When incorrect data has been input, this causes the process to stop. High quality of the information received has a positive effect on the process and output (there are no errors to contend with in the end result, if there are no errors provided in the feeder). There is no post-production work required if the information entered correctly at the beginning.

11. Who is primarily responsible for the process?

OBFS – University Payables (UPAY)

AITS

12. What other units/organizations participate in or support the process?

Any campus unit with a specialized condition or specialized system with approval to use the feeder process.

BSS and AITS support this process from an IT perspective.

13. What Information Technology system(s) support the process?

Information Technology systems used to support this process include: Banner (ERP), SecureFX, Excel, specialized departmental systems, XFERDEV server, XFERPROD server, Archive server, Applications Manager (batch-processing software), Informatica, Outlook, ViewDirect, and Unicenter.

14. What policies guide or constrain the process?

The service level agreement (SLA) signed by the campus unit and UPAY, general accounting principles, OBFS policies, and the feeder file template constrain the process. Neither purchase orders, encumbrances, payment-for-service, nor employee reimbursements - goods and services may be processed by a feeder.

15. How often does the process get executed?

Feeders are processed daily Monday-Friday.

16. What are potential defects with respect to the process?

One potential defect area would be data errors in the unit-provided file. Examples of these types of errors include a name or description including foreign language accent characters, or a number such as a ZIP code starting with 0 in Excel without being preceded by an apostrophe.

The process has a delay of at least overnight, sometimes longer if there was an error that caused a rejection.

Once a month on the third business day of the month, the feeder doesn't run due to monthly closeout.

a. How often do they occur?

Data errors can occur often for new campus units, less frequently for units who have used the feeder process for a while. Auto-feeders result in more data errors than spreadsheet feeders because they are not tested in the Development/Test environment whereas the spreadsheet feeders were tested by UPAY prior to being placed on the Production server (XFERPROD).

17. What types of challenges have employees who participate in the process raised?

Some units attempt to use this established process inappropriately, for dealing with a small volume of transactions. This process requires at least the minimum transactions agreed in the SLA. It's preferred to have at least 50 transactions on the manual (Spreadsheet) feeder version of the process. If a unit's feeder has been working for a year with no issues, they could consider auto-feeder.

This process involves a large number of systems whose seamless integration has been accomplished with varying degrees of success.

It can be difficult to get the necessary two signatures to sign the SLA.

UPAY doesn't always know who is processing auto-payments, since that process bypasses them all-together – so reaching a contact person with questions is difficult.

Keeping contact information up-to-date is difficult at the university.

AITS is called too frequently with aborts because of bad data, a network connection issue, or a system outage.

18. What types of challenges or concerns have customers raised?

It can take a long time to set up an auto-feeder.

In production, there is no way to tell instantly if there is a rejection, and processing errors in a timely manner is challenging as a result.

19. Will the process be changed by another initiative in the near future?

Yes, the Front End Feeder application will be established in a few years.

Chapter 9: Questionnaire for Potential Process Improvement Candidates

1. How would the process operate differently in the "Perfect Situation?"

UPAY and departments like the ability to do a one-time feeder for transactions that meet the criteria, but perhaps the spreadsheet process could be improved or be more intuitive. The spreadsheet process works but is entirely dependent on the way we have to send feeders through because of Banner feeder functionality. The files come through as approved and completed and there is no "stop mid-process" functionality.

The auto-feeder perfect situation: would be to ease the process of preparing the feeder file according to the appropriate format. This must be exact. Departments spend a lot of time getting their process formatted correctly so the feeder process can be used. If the format were easier, departments could put the feeder through faster. Departments would like results to be more real-time rather than having to wait a whole day. Behind the scenes there are a lot of systems used to work. Also, directory and setup on Applications Manager is easy, but testing takes a long time.

It might be a good goal to increase the transparency of feeder criteria for departments to be aware of feeders and to begin to self-evaluate for potential candidacy for a feeder process. They would still need to approach UPAY, who determines actual candidacy.

2. What does the team hope to achieve through this improvement?

The team would like to publish a list of feeder rules/criteria on website. They would not recommend publishing the template on the website to prevent old versions from being in use. The team also wants to work toward greater efficiencies with spreadsheet feeders and auto-feeders, and increase usage of feeders.

3. Who would benefit from the desired improvement to the process?

Department units

a. How would we know?

They would voice their disapproval if not the feeder ability was not included in a new system to at least the same level of functionality that exists currently.

If the improvements resulted in a more intuitive interface, it is believed that departments would voice their positive opinion of that as well.

4. What data can be provided with respect to the process performance (e.g. service rating, cycle time, customer survey responses, etc.)?

UPAY hasn't kept any data on how often it fails. Feeders don't often result in production fails because most issues get cleared up in the development stage.

AITS might have some data issue stats because they get called when something happens. David will see if he can find.

5. Who should be included in any improvement discussions for the process?

Vicky Levitske – College of Medicine Admin

Michael Fitzgerald – Hospital Materials Management

David Girard – Hospital Materials Management

Ripal Mashruwala – Hospital Materials Management

Laquashei Lynn - Library

Chapter 10: Opportunities for Improvement

The following opportunities for improvement were identified through team discussions, focus group feedback, and OBFS Partner feedback. Issues were categorized into nine groups, covering system-related issues, communication about the process, training, setup delays, policy-related issues, and areas outside of the process owner's control.

System – Overall: issues related to the applications used	
C1.1	Network/systems issues or outages causing aborts
C1.2	Large number of systems cobbled together

System – File format: issues related to the feeder file format	
C2.1	Level of information required is too high in the feeder file (e.g., number of fields)
C2.2	UPAY doesn't have a tool to send to departments to create the feeder file according to the template format
C2.3	Departments have difficulty with the feeder format

System – Response time: issues related to the system response time	
C3.1	The department must wait until day after submission of file to determine if their feeder file had any rejections or errors
C3.2	Rejection adds another day to processing the transactions that errored out as they have to be resubmitted
C3.3	Department can't tell instantly if file is rejected

Communication and advertising: issues related to lack of communication or advertising of the feeder process	
C4.1	Lack of knowledge in departments about feeder process availability
C4.2	Lack of advertising of feeder process

Output training: issues related to training on the output of the process	
C5.1	Lack of knowledge about the response file created after a feeder file runs
C5.2	Lack of user knowledge of output in error file
C5.3	Campus/department delay can impact accounting period close

Input training: issues related to training on inputs to the process	
C6.1	Some departments use the feeder template incorrectly
C6.2	Departments submit feeder file that doesn't meet criteria
C6.3	Departments make requests for processing a feeder file/payment outside of the established or agreed-upon processing schedule

Input training: issues related to training on inputs to the process	
C6.4	Wrong account information is submitted by department
C6.5	Bad data/characters submitted in file cause aborts
C6.6	Department places file in wrong directory
C6.7	Department names file incorrectly
C6.8	Duplicate files (which can cause duplicate payments)
C6.9	Campus units' timing of submission of feeder file by 6 PM

Setup delays: issues related to delays in establishing a new feeder	
C7.1	Follow up needed to obtain SLA signatures
C7.2	Amount of time required for the Approval step can be lengthy
C7.3	Departments can delay quite a while (years) during the testing phase
C7.4	Long set-up time for auto-feeder

Policy: issues related to rules for the feeder process	
C8.1	Department frustration with denial of request to initiate a feeder process
C8.2	Process doesn't run during account period close window
C8.3	Requirement to submit the feeder file by 6PM can be forgotten or missed by the campus units

Department issues: areas outside of UPAY/AITS/BSS control	
C9.1	Hard or impossible for UPAY to support the various applications/specialized systems used by departments
C9.2	Sometimes there is no IT support for the department
C9.3	Turnover and insufficient department back-up
C9.4	Account and password sharing in departments
C9.5	Insufficient department off-boarding: lack of gathering feeder instructions and knowledge from employee before he or she leaves causes problems for replacement
C9.6	UPAY doesn't know when department stops using feeder

Chapter 11: Suggested Improvements

The following recommendations were suggested by the team members. Not all improvements were selected by the team, who proceeded to present the selected improvements to the focus groups for feedback.

#	Change Category	Suggested Improvement
1	Response Time	Run feeder chain multiple times per day
2	Response Time	Stress to departments that rejections will cause delays
3	Response Time	“Real time” processing/Batch file to messaging/Interactive feeder with Banner (invoice messaging, immediate response)
4	Response Time	Auto-response if file has been accepted
5	Response Time	Post the feeder processing timeline
6	System	Eliminate/combine some systems
7	Feeder File Format	For current process – XLS file generator/Feeder file generator tool
8	Feeder File Format	Reduce file fields to only those necessary/Reduce amount of items required on feeder/Fewer required fields for feeder file/More default information vs. input requirements
9	Feeder File Format	Flexible file format
10	Feeder File Format	Document the format
11	Feeder File Format	XLS feeder file format
12	Communications & Advertising	More documentation on OBFS website/Add feeder docs to website/OBFS website presence
13	Communications & Advertising	Newsletter blast
14	Output Training	Immediate output file/Real time processing
15	Output Training	Quarterly training sessions/Continued yearly training
16	Input Training	Quarterly training sessions/Continued yearly training
17	Input Training	Process for unit to error-check the file or error-proof the process/Pre-process file evaluation
18	Input Training	Add feeder docs to website – not selected here but selected under Communications + Advertising
19	Setup Delays	Document and publish process flow timeline (including setup)
20	Setup Delays	Streamline the approval process
21	Setup Delays	Reject unsigned SLAs
22	Setup Delays	Create new process
23	Setup Delays	Checklist of required items and approvals
24	Policy	Brief process/policy fact sheet

#	Change Category	Suggested Improvement
25	Policy	Post the policy publicly
26	Policy	Increased communication of policy
27	Policy	Real time messaging vs. batch processing
28	Policy	Target department audience
29	Department Issues	List of feeder contacts for both spreadsheet and auto types
30	Department Issues	Department requirements to be spelled out in SLA
31	Department Issues	Shared IT resources/knowledge
32	Department Issues	New employee training

Chapter 12: Feedback from Focus Groups

A second round of focus groups were held on the three campuses 8/11/16-8/12/16. A total of nine people attended three focus groups. The common themes of their feedback included:

- Some focus group participants had not used the invoice feeder file process and therefore were not able to provide a lot of feedback. They attended the sessions to learn about the invoice feeder file process and indicated that the recommendations would be beneficial if they were to use the process in the future.
- For those participants that did use the invoice feeder file process, there was general agreement with solutions proposed by the team, feeling that the solutions should help issues that the campuses are having.
- The Urbana campus requested the team to consider keeping SLAs valid for two years instead of one. The team considered that request and will need to determine if this length of time is mandated by regulations or if it could be changed.

Chapter 13: Recommendations for Improvement

Within the Process Invoice Feeders from Departments process, 14 recommendations have been identified for improvement by the team. There are two levels of implementation: "short-term" indicates improvements suggested for the current system and process prior to the development of an RFP, and "long-term" indicates improvement to the process with an RFP for a new system. After these recommendations were presented to the OBFS partners, an additional recommendation was proposed (see second table, below).

<table>
<tr><th>#</th><th>Recommendation</th><th>Category</th><th>Level</th><th>Related Issue(s)</th></tr>
<tr><td>1</td><td>Advertise the availability of the invoice feeder to university departments. Describe the feeder process, benefits, and criteria on the OBFS website Procedures page, under "Payments to Vendors". Include details on required approvals, including the completion of an SLA.

Identified action items:
<table><tr><th>#</th><th>Action Item</th><th>Owner</th></tr><tr><td>1.1</td><td>Create content</td><td>Tina Miller</td></tr><tr><td>1.2</td><td>Approve content</td><td>Duane Elmore</td></tr><tr><td>1.3</td><td>Create OBFS announcement</td><td>BSS Communications Team – Shauna Clayborn or Melinda Carr</td></tr><tr><td>1.4</td><td>Send email to "OBFS web requests" for upload to website</td><td>Kathy Young</td></tr><tr><td>1.5</td><td>Upload to website</td><td>Jodi Wright</td></tr><tr><td>1.6</td><td>Publish OBFS announcement</td><td>BSS Communications Team – Shauna Clayborn or Melinda Carr</td></tr></table>
Director Council:
Will not pursue this recommendation.</td><td>Increase Communi-cation</td><td>Short</td><td>C4.1, C4.2</td></tr>
<tr><td>2</td><td>Create a centrally located, updated invoice feeder contact list accessible by UPAY, BSS, and AITS. Use department contact information provided on SLA and ensure that both BSS and UPAY communicate their separate feeder contacts.

Identified action items:
<table><tr><th>#</th><th>Action Item</th><th>Owner</th></tr><tr><td>2.1</td><td>Merge Auto and Spreadsheet contacts into a single spreadsheet</td><td>Tina Miller</td></tr><tr><td>2.2</td><td>Send to AITS TAM Finance and BSS</td><td>Tina Miller</td></tr></table></td><td>Increase Communi-cation</td><td>Short</td><td>C7.1, C9.1, C9.2</td></tr>
</table>

2.3	Monitor SLAs for changes and share with group	Tina Miller
2.4	Monitor changes to automated feeders and share with group	Jodi Wright

Director Council:

This recommendation is currently underway.

3	**Update the SLA template for all feeder types to include pointers directed at the "department issues" that frequently arise.** Pointers should include: no account/password sharing, notification of stopping the feeder, notification of an off-boarded person from the SLA contacts.	Enhance Service Level Agree-ments	Short	C9.1, C9.2, C9.3, C9.4, C9.5, C9.6
4	**Publish the high-level process for different types of feeders.** This would indicate the order of steps, not the time it takes to complete each step.	Increase Communi-cation	Short	C7.4, C8.1, C8.2, C8.3

Identified action items:

#	Action Item	Owner
3.1	Analyze current SLAs	Darren Strater
3.2	Identify gaps relating to department issues	Darren Strater
3.3	Document the gaps	Darren Strater
3.4	Update the SLA template	Darren Strater
3.5	Approve template updates	Jim Martinie

Director Council:

Prefer to include a FAQ operational fact sheet (recommendation #5) as an attachment and reference the FAQ sheet in the SLA. Will need to update FAQ sheet or a regular basis (6 months, 1 year, etc).

Identified action items:

#	Action Item	Owner
4.1	Identify criteria for each feeder type	Tina Miller (spreadsheets)/ Jodi Wright (auto)
4.2	Document high-level current process for each type	Tina Miller
4.3	Send email to "OBFS web requests" for upload to website	Kathy Young
4.4	Upload to website	Jodi Wright

Director Council:

<table>
<tr><td></td><td>Encompassed in the newly created FAQ sheet would be the high-level process steps.</td><td></td><td></td><td></td></tr>
<tr><td>5</td><td>Create and distribute an operational fact sheet surrounding feeder procedures. This operational sheet would be intended for departments that utilize the invoice feeders. This will include the main rules that must be followed:
● submit feeder by 6 PM
● don’t use feeder for reimbursements
● must submit at least 50 transactions at a time
● must follow generally accepted accounting principles

Identified action items:
<table><tr><th>#</th><th>Action Item</th><th>Owner</th></tr><tr><td>5.1</td><td>Create fact sheet</td><td>Darren Strater</td></tr><tr><td>5.2</td><td>Approve fact sheet</td><td>Duane Elmore</td></tr><tr><td>5.3</td><td>Send email to “OBFS web requests” for upload to website</td><td>Kathy Young</td></tr><tr><td>5.4</td><td>Upload to website</td><td>Jodi Wright</td></tr></table>
Director Council:
Would use the same FAQ sheet as discussed in recommendation #3. This would be shared with current feeder users.</td><td>Increase Communi-cation</td><td>Short</td><td>C5.1, C5.2, C5.3, C6.1, C6.2, C6.3, C8.2, C8.3</td></tr>
</table>

<table>
<tr>
<td>6</td>
<td>Develop different levels of SLAs depending the type and duration of the feeder. This includes a re-evaluation of the SLA process including length of time that the SLA is valid. Example of feeder duration: a one-time feeder would have an abbreviated SLA. As part of the re-evaluation of the SLA process, assess who needs what – e.g., does Audits actually need to be emailed a copy of each SLA?

Identified action items:

<table>
<tr><th>#</th><th>Action Item</th><th>Owner</th></tr>
<tr><td>6.1</td><td>Standardize boiler plate for feeders</td><td>Tina Miller</td></tr>
<tr><td>6.2</td><td>Review boiler plate on a set schedule</td><td>Tina Miller</td></tr>
<tr><td>6.3</td><td>Write up different criteria for different levels of SLA – e.g., duration could vary by unit or feeder type</td><td>Tina Miller</td></tr>
<tr><td>6.4</td><td>Discuss with Jim Martinie which types of feeders need his signature and which can proceed without his signature</td><td>Darren Strater</td></tr>
<tr><td>6.5</td><td>Confirm that it’s okay to stop emailing SLA to Audits</td><td>Darren Strater</td></tr>
<tr><td>6.6</td><td>Determine if SLAs can be active for two years instead of only one</td><td>Darren Strater</td></tr>
<tr><td>6.7</td><td>Determine who in Payables is ultimately responsible for archiving the SLAs</td><td>Jim Martinie</td></tr>
</table>
</td>
<td>Enhance Service Level Agree-ments</td>
<td>Short</td>
<td>C7.1, C7.2</td>
</tr>
<tr>
<td>7</td>
<td>Convert trusted submitters of spreadsheet feeders to auto-feeders. Would need to ensure that the campus unit(s) in question know how to create the text file and they would need a new feeder user ID.

Identified action items:

<table>
<tr><th>#</th><th>Action Item</th><th>Owner</th></tr>
<tr><td>7.1</td><td>Identify list of reliably competent candidates to change from spreadsheet to auto-feeder</td><td>Tina Miller</td></tr>
<tr><td>7.2</td><td>Review list</td><td>Tina Miller and Darren Strater</td></tr>
<tr><td>7.3</td><td>Review on an annual basis to determine if there are others to add to auto-feeders</td><td>Tina Miller and Darren Strater</td></tr>
<tr><td>7.4</td><td>Contact campus unit to indicate they could be auto-feeder</td><td>Tina Miller and Darren Strater</td></tr>
<tr><td>7.5</td><td>Campus unit works with Jodi to establish auto-feeder</td><td>Jodi Wright</td></tr>
</table>
</td>
<td>Improve Process Efficiency</td>
<td>Short</td>
<td>C2.2, C9.1, C9.2</td>
</tr>
<tr>
<td>8</td>
<td>Implement an electronic workflow for the SLA approval process. This will include an analysis of available workflow tools. The purpose of this is to reduce the amount of waiting induced by using paper forms and obtaining wet signatures.

Identified action items:

<table>
<tr><th>#</th><th>Action Item</th><th>Owner</th></tr>
<tr><td>8.1</td><td>Gather process steps for different categories of SLAs</td><td>Darren Strater and Tina Miller</td></tr>
</table>
</td>
<td>Enhance Service Level Agree-ments</td>
<td>Short</td>
<td>C7.1, C7.2</td>
</tr>
</table>

	8.2	Contact AITS data automation office to get their input - view demos of university tools to support workflow – FormBuilder, Service Desk PAM	Darren Strater and Tina Miller		
	8.3	Document requirements	Darren Strater		
	8.4	Investigate other workflow tools	Darren Strater		
	8.5	Decide which tool to proceed with	Darren Strater		
	8.6	Create project to analyze, test, and implement new workflow tool	Darren Strater		
	8.7	Transfer current SLAs to the new workflow process	Darren Strater		
	8.8	Communicate the change to the units	Darren Strater		
9	**Analyze the fields being used in the feeder file to determine what should be retained, dropped, or added during implementation of a Front End Feeder.** The feeder currently asks for the minimum data in order to process a feeder. Example of field to add: units would like an invoice date field. Identified action items: **9.1** Talk to campus units to determine what fields they would like in front end feeder (future) — Front End Feeder group **9.2** Determine if there are places in Banner to store the requested additional field data — Front End Feeder group **9.3** Prepare documentation with list of recommended fields for front end feeder including justification/reasoning — Front End Feeder group *Director Council:* *ITPC 0049 is currently on hold.*			Evaluate Systems	Short	C2.1

<table>
<tr>
<td>10</td>
<td>Develop a tool that campus units can use to facilitate moving from a spreadsheet feeder to an automatic feeder. The conversion tool for units would be similar to UPAY's conversion Access file.

Identified action items:

<table>
<tr><th>#</th><th>Action Item</th><th>Owner</th></tr>
<tr><td>10.1</td><td>Determine output available from specialized (non-Banner) systems and evaluate if all required information is present</td><td>Tina Miller and campus unit</td></tr>
<tr><td>10.2</td><td>Determine needed fields</td><td>Tina Miller</td></tr>
<tr><td>10.3</td><td>Develop workflow for each submitter ID</td><td>Rich Hungerford III</td></tr>
<tr><td>10.4</td><td>Determine validation checks</td><td>Rich Hungerford III</td></tr>
<tr><td>10.5</td><td>Program</td><td>Rich Hungerford III</td></tr>
<tr><td>10.6</td><td>Test</td><td>Rich Hungerford III and campus units</td></tr>
<tr><td>10.7</td><td>Implement</td><td>Rich Hungerford III and campus units</td></tr>
</table>

Director Council:

Finds value in having University Payables review the spreadsheet prior to creating the text file.</td>
<td>Evaluate Systems</td>
<td>Short</td>
<td>C2.2, C2.3, C9.2, C9.3, C9.5</td>
</tr>
<tr>
<td>11</td>
<td>Implement electronic invoicing with the appropriate approval workflow prior to payment of the vendor. This tool would be a preference in a future system and would alleviate the need for an invoice feeder since vendors would be able to electronically submit invoices that would be routed for approval and paid all in one system. This would occur via some type of electronic data interchange method. The tool should be based on the business requirements gathered.

Action items weren't developed for this recommendation. This recommendation should be included when RFP requirements are developed at a later time.</td>
<td>Evaluate Systems</td>
<td>Long</td>
<td>C1.2</td>
</tr>
<tr>
<td>12</td>
<td>Convert auto-feeders with FTP to a messaging-type feeder. The messaging-type feeder is similar to Capital Programs' feeder. Identify other systems being used by campus unit that could take advantage of a messaging-type feeder but aren't using any type of feeder.

Due to time constraints and the priority level determined by the team, action items were not developed for this recommendation.</td>
<td>Improve Process Efficiency</td>
<td>Short</td>
<td>C2.2, C9.1, C9.2</td>
</tr>
</table>

13	**Convert auto-feeders to use the Front End Feeder.** One expected benefit of the Front End Feeder is that it would produce an output file 30 minutes after submission instead of overnight. Due to time constraints and the priority level determined by the team, specific action items were not developed for this recommendation. ITPC 0049 is a project that implements the Front End feeder for Accounts Receivable and General Ledger feeders. Invoice feeders should become a part of that project, or a separate project should be created to apply the Front End feeder framework to invoice feeders.	Improve Process Efficiency	Short	C3.1, C3.2, C3.3, C6.4, C6.5, C6.6, C6.7, C6.8
14	**Include the ability for the campus unit to feed data directly into the system of record to upload one or many invoices.** This ability would be a recommendation for a future system, where campus units would like to be able to electronically enter invoices and have approvals and payments all integrated in the same system. UPAY would still expect the ability to control the input flow. Action items weren't developed for this recommendation. This recommendation should be included when RFP requirements are developed at a later time. *Director Council:* *Prefers the vendor provide the invoice data to the university electronically and not have the campus units enter invoice data into a system.*	Evaluate Systems	Long	C1.2

After the initial 14 recommendations were presented to the OBFS partners, an additional recommendation was suggested.

#	Recommendation
1	**Ensure that service date information is on feeders.** External audit findings related to fiscal year-end cutoff indicated that UI does not have sufficient internal controls to ensure expenses are recognized in the proper fiscal year. Service date information on feeders is critical to fiscal year-end cutoff and the external audit. • Add additional language to the SLA requiring service date information and also requiring this information as a part of the invoice feeder. • Pass the date information to the "supplemental data" fields in Banner already added to the FABINVH_ADD table. Action items weren't developed for this recommendation. *Director Council:* *Short term solution may be to include fiscal year-end cutoff.* *This requirement needs to be included in the RFP requirements.*

Chapter 14: Solution Prioritization Matrix

The recommendations for improvement were reviewed and the potential solutions were prioritized by the Director Council. The below matrix contains the potential solutions and each ranked score.

The scored columns represent the average of each attribute entered by each participant. The total score is the average of the total calculation of each participant. The 'Ranking' column represents the priority ranking.

Solution Prioritization Matrix: 1.4.1.3-Process invoice feeders

There are two levels of implementation

'Short Term' notes improvements on the current system and processes prior to the RFP for a new system

'Long Term' notes improvement to the process with a RFP for a new system.

Describe Potential Solutions	Ease of Implementation: 1 (very difficult) - 5 (very easy)	Permanence of the Solution: 1 (temporary) - 5 (permanent)	Impact of the Solution: 1 (low) - 5 (high)	Cost of the Solution: 1 (high) - 5 (low)	Total Score (Average of The total product from each participant):	Ranking
	Avg of attribute from each participant	Avg of attribute from each participant	Avg of attribute from each participant	Avg of attribute from each participant		
Advertise the availability of the invoice feeder to university departments.	**3.71**	**1.86**	**2.00**	**3.57**	47.86	5
Create a centrally located, updated invoice feeder contact list accessible by UPAY, BSS, and AITS.	**4.29**	**3.57**	**3.14**	**3.57**	173.43	1

Update the SLA template for all feeder types to include pointers directed at the "department issues" that frequently arise.	**3.29**	**3.29**	**2.71**	**3.29**	107.71	3
Publish the high-level process for different types of feeders.	**3.71**	**2.00**	**2.29**	**2.71**	53.00	4
Create and distribute an operational fact sheet surrounding feeder procedures.	**3.57**	**2.43**	**2.86**	**3.86**	131.71	2
Develop different levels of SLAs depending the type and duration of the feeder.	**2.57**	**1.71**	**1.86**	**3.00**	22.43	9
Convert trusted submitters of spreadsheet feeders to auto-feeders.	**1.86**	**1.71**	**2.00**	**2.29**	22.14	10
Implement an electronic workflow for the SLA approval process.	**2.14**	**2.71**	**1.71**	**2.14**	21.86	11
Analyze the fields being used in the feeder file to determine what should be retained, dropped, or added during implementation of a Front End Feeder.	**2.14**	**1.57**	**2.14**	**3.14**	31.43	7

Develop a tool that campus units can use to facilitate moving from a spreadsheet feeder to an automatic feeder.	**2.43**	**1.86**	**2.57**	**2.57**	46.00	6
Convert auto-feeders with FTP to a messaging-type feeder.	**1.86**	**2.43**	**2.57**	**1.71**	19.57	12
Convert auto-feeders to use the Front End Feeder.	**2.00**	**1.86**	**2.43**	**3.00**	23.86	8

Appendix A: Business Glossary

[Business Glossary Term and definition]

AITS

Administrative Information Technology Services

BSS

OBFS – Business Solutions & Services

UPAY

OBFS – University Payables

Service Level Agreement (SLA)

"A service-level agreement (SLA) is a part of a standardized service contract where a service is formally defined. Particular aspects of the service – scope, quality, responsibilities – are agreed between the service provider and the service user."[1]

[1] "Service-level agreement." https://en.wikipedia.org/wiki/**Service-level_agreement** accessed 7/13/2016.