

ND State Court Administrator's Office

UCIS AND PCSS Integration Final Report

DRAFT

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1 Executive Summary

NEEDS WORK...

2 Background

2.1 UCIS

The Unified Case Information System (UCIS) is a statewide case management system now installed in 29 counties and all but one district. The judiciary owns the UCIS code and no license fees or yearly maintenance fees are required for the software. UCIS resides on a Judicial-owned AS/400 in Bismarck for 5 districts and on a county-owned AS/400 located in Grand Forks County for one district.

2.2 PCSS

The Professional Computer Software Services (PCSS) was purchased by Cass County to provide a fully integrated criminal justice system within Cass County. PCSS resides on a county-owned AS/400 located in Fargo. PCSS is a licensed software package and requires annual maintenance fees to maintain technical support from the vendor.

2.3 Recent activities

Brief history – 1 paragraph

- ?? Formation of PCSS and UCIS Integration committee
- ?? Clerk of Courts consolidation (4/1/2001)
- ?? Court Technology Committee and Supreme Court objectives
- ?? Justice Served report
- ?? RFP for evaluation of integration alternatives and recommendations

3 Objectives

The objective of this project is to evaluate alternatives for implementing a single court case management system for the state of North Dakota and make recommendations on how to most effectively do so.

The Court Technology Committee outlined the following five goal statements, which have been approved by the Supreme Court:

1. Provide all district judges and authorized court personnel have the ability to share case related data in real time throughout the state.
2. Develop a process for real time data transfer between PCSS and UCIS.
3. Provide a single point of inquiry for all case information and statistical reporting.
4. Provide a single voice, strategy and point of contact for judicial information system's objectives and issues.
5. Realize efficiencies through the elimination of redundancy and work duplication, standardization of hardware, software, procedures and training by integrating information systems.

4 Study Approach

Interviews were conducted with representatives of the Supreme Court and Cass County to gain an understanding of the existing application functionality and user requirements. Current application documentation was reviewed where available. The UCIS system documentation is very limited, which makes the task more difficult. Interviews were conducted with the following individuals:

CHECK SPELLING AND TITLES AND/OR ORGANIZATION

- ?? Kurt Schmidt, Title...
- ?? Ted Gladden
- ?? Jana Thielges
- ?? Diana Pfeifle
- ?? Keith Nelson
- ?? Deb Simmonson
- ?? Doug Johnson
- ?? Bob Holmbeck
- ?? Deb Wheeler
- ?? Birch Burdick
- ?? Linda ????
- ?? Linda Brooks
- ?? Cathy Larson
- ?? Linda Weaver
- ?? Dorothy Howard
- ?? Glen Ellingsberg
- ?? Eloise Haaland
- ?? Gladys Schmidt
- ?? Bonnie Johnson
- ?? Roxanne ?????
- ?? Tammy ?????
- ?? Kari Goos
- ?? Judge Racek
- ?? Judge Medd
- ?? Judge Backes
- ?? Dion Ulrich

5 Alternative Solutions

Several alternative and very different solutions were evaluated with the objective of fulfilling the goals developed by the Court Technology Committee. The different alternatives are described below with a brief overview and advantages and disadvantages of each.

5.1 Option 1: Bridge between current systems and users

The States Attorney's Modules and Clerk of Court Modules of PCSS would remain on CASS County's AS/400. The UCIS Modules would remain on the Supreme Court's AS/400, in Bismarck, and the systems would be bridged together in real-time providing database updates from PCSS to UCIS and allowing access to the databases of both systems from any user on either system.

Advantages

- v No Migration or retraining of users at CASS County

Disadvantages

- v Data mapping and translation of the databases cannot be resolved without complex tables and routines.
- v The existing applications would require significant modifications to allow for recovery and synchronization of the databases after a system or network failure.

5.2 Option 2: Move Cass County Clerk of Courts to UCIS and bridge to Cass County States Attorney's office

The States Attorney's Module of PCSS would remain on the CASS County AS/400. They would continue to process their cases as they currently are. The CASS County Clerk of Courts would migrate to UCIS on the Supreme Court's AS/400, in Bismarck. The States Attorney's case data would be imported into the UCIS database in the same fashion it is now imported into the CASS County Clerk of Courts PCSS database. The case disposition, in UCIS, would be exported into the PCSS States Attorney's database.

Advantages

- v All District Courts in the State would be using the same Software.
- v Data mapping and translation would be done only when a criminal case is entered. The data to be imported into UCIS contains of fewer data elements requiring less translation.
- v All Clerk of Courts would be using UCIS making all the case data available to the users of UCIS, Judges, States Attorneys; BCI, and Department of Transportation

- v Data synchronization would be more reliable because the import could be performed multiple times if needed.

Disadvantages

REVIEW & UPDATE

- v The interfaces between the two systems would be much more dependant on the reliability and available of the network
- v An interface to supply warrant information from PCSS to UCIS would be required

5.3 Option 3: Move Cass County Clerk of Courts to UCIS and move Cass County States Attorney's office to Supreme Court's AS/400

The States Attorney's Module of PCSS would be moved to the Supreme Courts AS/400 in Bismarck. They would continue to process their cases as they currently are. The CASS County Clerk of Courts would migrate to UCIS on the same AS/400 at the Supreme Court, in Bismarck. The States Attorney's case data would be imported into the UCIS database in the same fashion it is now imported into the CASS County Clerk of Courts PCSS database. The case disposition, in UCIS, would be exported into the PCSS States Attorney's database.

Advantages

- v All District Courts in the State would be using the same Software.
- v Insured data integrity
- v Data mapping and translation would be done only when a criminal case is entered. The data to be imported into UCIS contains of fewer data elements requiring less translation.
- v All Clerk of Courts would be using UCIS making all the case data available to the users of UCIS, Judges, States Attorneys; BCI, and Department of Transportation
- v Data synchronization would be more reliable because the import could be performed multiple times if needed.

Disadvantages

REVIEW & UPDATE

- v The interfaces between the two systems would be much more dependant on the reliability and available of the network
- v An interface to supply warrant information from PCSS to UCIS would be required

5.4 Option 4: PCSS as the integrated solution

The States Attorney's Modules and Clerk of Court Modules of PCSS would remain on CASS County's AS/400. The UCIS system would be replace by the PCSS application.

Advantages

- v Single consolidated system
- v Minimizes ongoing administration and training costs
- v Ongoing support and program enhancements could be provided by the vendor

Disadvantages

- v Requires migration and retraining of all users except CASS County
- v Increased initial implementation costs

5.5 Option 5: Evaluate and select new vendor software

Initiate project to evaluate vendor software packages to meet requirements. Implement single integrated solution for all functions.

Advantages

- v Single consolidated system
- v Minimizes ongoing administration and training costs
- v Ongoing support and program enhancements could be provided by the vendor
- v Strategic solution to position for future requirements

Disadvantages

- v Higher initial cost
- v Higher ongoing software maintenance costs
- v Longer implementation
- v Requires data conversion from both UCIS and PCSS

6 Recommendations

6.1 *Recommended solution*

The Judicial Branch should consider evaluating Case Management software currently available from vendors. Most documentation reviewed and personnel interviewed indicated there needs to be an immediate integration of UCIS and PCSS and replacement of UCIS is likely to follow in several years. From a strategic perspective, it would be much more cost effective and productive to move to a new integrated vendor supplied system now rather than waiting. The expense and duration of this integration project would go a long way toward the implementation of a new software package. Custom programming, conversion and training would only have to be done once.

If it is not acceptable or appropriate to evaluate new software packages at this time, our recommendation is to implement option 2 outlined in Section 4.2. This option involves migrating the Cass County Clerk of Courts to UCIS and developing a real time bridge to PCSS used by the States Attorney's office.

This solution will provide:

- ?? Consistent function and accessibility for users statewide
- ?? Consistent and easy reporting of statistics on a statewide basis
- ?? Consistent and acceptable response time for all users
- ?? Reliable systems and interfaces with at least as high availability as current systems
- ?? No duplicate data entry

6.2 *Project Costs*

A high level cost estimate is provided based on the following assumptions:

- ?? Option number 2 is implemented as recommended in Section 4.2
- ?? The design, development and unit testing of programs, documentation and training will be completed by the contracted firm
- ?? The interfaces between UCIS and PCSS will provide real time updates
- ?? UCIS will be enhanced to include most PCSS functions, within reason

The implementation project is estimated at 1500 hours of application development and 300 hours of project management. The conversion effort cannot be estimated at this time. A detailed analysis of the data fields on the PCSS and UCIS systems and the data itself must be completed prior to developing the conversion effort. The table below summarizes anticipated effort, rates, expenses and total project costs.

Service Description	Hours	Rate (\$/hour)	Cost (\$)
AS/400 System Upgrade	NA		NA
Application Development	1500	100	150,000
Training	300	100	30,000
Project Management	300	150	45,000
PCSS consulting	?????	?????	?????
Data Conversion	?????	?????	?????
Implementation support	300	100	30,000
Expenses			10,000
Total			265,000

NOTES:

- 1) This does not include any consulting from PCSS.
- 2) Data conversion costs have not been estimated at this time.

6.3 Project Time Line

This project involves the verification of detailed requirements, system design, development, test and implementation of all the desired enhancements and additional interfaces between systems. In addition, the data conversion from the PCSS to the enhanced UCIS database will be large and complex. The schedule for delivery of the “Beta” and final products outlined in the RFP will not be achievable. An estimated project time line is shown below.

ID	Task Name	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
1	Project Planning & Management	[Gantt bar spanning Oct to Oct]														
58																
59	Define Requirements	[Gantt bar spanning Oct to Nov]														
61																
62	Application Design	[Gantt bar spanning Nov to Dec]														
64																
65	Programming and unit test			[Gantt bar spanning Dec to Apr]												
68																
69	Data conversion			[Gantt bar spanning Dec to Jun]												
72																
73	Documentation											[Gantt bar spanning Aug to Oct]				
76																
80	User training														[Gantt bar spanning Oct to Nov]	
83																
84	Integration/User testing									[Gantt bar spanning May to Jun]						
87																
88	Production Cutover										[Gantt bar spanning Jun to Jul]					
93																
94	Implementation Support (90 days)										[Gantt bar spanning Jun to Oct]					

7 Technical Overview

7.1 Technical specifications

The operating environment for both UCIS and PCSS is an IBM AS/400 utilizing Operating System/400 (OS/400) V4R2M0 or higher. The development effort to bridge the UCIS and PCSS applications and systems will focus on two primary areas. They are:

- ?? Design and development of the software modifications
- ?? Physical connections that will bridge the two remote systems.

7.1.1 Software Development Environment

The software development effort will utilize the Application Development Tools available on the AS/400 systems. All physical and logical files will contain external definitions utilizing DB2/400. The executable programs will be coded and compiled in the RPG400 or RPGLE high-level language and AS/400 Control Language.

The existing UCIS menu system will be maintained or enhanced to provide for new functions and methods of navigation.

7.1.2

Physical Connections and Bridge

The AS/400 on which UCIS resides is physically connected to the statewide network utilizing TCP/IP as the communication protocol. The AS/400 on which PCSS resides is also connected to the statewide network utilizing TCP/IP. With some configuration, these systems have the ability of communicating with one another without additional software or hardware.

Distributed Data Management (DDM) will be utilized to provide the program communication link between the AS/400 systems located at the Supreme Court in Bismarck and Cass County in Fargo, ND. DDM is part of the OS/400 licensed program and exists on both AS/400 systems.

The DDM support on the AS/400 system allows application programs or users, on System A, to access data files that reside on a remote System B, and also allows System B users to access files on System A.

8 Data Conversion

8.1 Conversion Alternatives

With the implementation of any new software application, careful consideration must be given to the value of historical data. The Court Technology Committee, in one of its goals, stated that any recommended solution provide for a single point of inquiry for all case information. The following alternatives have been identified for the conversion of historical data that will meet the objective of having a single point of inquiry for all case information.

- ?? Develop a one-time comprehensive conversion program, which would integrate the historical data from PCSS into UCIS.
- ?? Develop a UCIS inquiry program, which would query both the UCIS and PCSS databases and present the combined data to the end user.

8.2 Conversion Recommendation

It is our recommendation that a one-time comprehensive conversion program be developed, which would integrate the historical data from PCSS into UCIS.

Although this will be a very time consuming processes it would need only to be done one time and would meet the goal of the Technology Committee of provide a single point of inquiry for all case information.

8.3 Conversion Issues

The following conversions issues have been identified.

- ?? PCSS would almost certainly need to be involved in any conversion process.
- ?? Enhancements would be needed to UCIS in order to complete the conversion process
- ?? PCSS contains considerably more data elements than UCIS. Therefore, it maybe impossible to bring all the historical data from PCSS into UCIS. A “Miscellaneous Information” section may have to be added to UCIS to allow for the conversion of “critical” PCSS data into UCIS.
- ?? The data mapping and translation between PCSS and UCIS data element would be very time consuming

9 Transition Plans

9.1 Transition Plans for existing UCIS users

Eight recommended enhancements to UCIS have been identified. Once implemented, these changes will significantly modify the navigation of UCIS and will provide additional functionality. Therefore, training and migration of existing UCIS users must be addressed during the development of a detailed project plan. Our recommendation is to develop the required UCIS enhancements, migrate the PCSS users, then transition the current UCIS users to the new system. **Why??**

9.2 Transition Plans for PCSS users

We recommend an iterative approach to migration of the PCSS users to UCIS. UCIS will be enhanced to provide the function PCSS offers today. During the UCIS enhancement process, PCSS user involvement is imperative. Once we gain user acceptance, data conversion and PCSS user migration will occur over a weekend.

10 Training Plans

10.1 Training Plans 1

????????????????????

11 Roles and Responsibilities

11.1 Organization/Personnel Roles and Responsibilities

The role of interested parties is listed below. We recommend a team with decision making authority be formed to be responsible for the implementation of the UCIS/PCSS integration project. There should be a minimal number of people in this group that have the knowledge and authority to quickly address project issues. Members would probably be a small subset of the UCIS/PCSS Integration Committee.

Organization / Personnel	Role
Cass County IS staff	Verify requirements, testing
Judicial Branch IT staff	Assume support role at project completion
UCIS/PCSS Integration Committee	Advisory role
UCIS/PCSS Integration Management Team	Provide guidance and make decisions for the implementation team
PCSS Corporation	Consulting on PCSS application
Enterprise Solutions, Inc.	Project management, lead application development

11.2 Staffing

Responsibility for individual tasks will be assigned during the implementation planning phase and documented in the project plan.

11.3 System maintenance and enhancements

Future responsibilities for maintenance and enhancements of UCIS enhancements and UCIS and PCSS interfaces will be the responsibility of the Judicial Branch IT staff.

12 Critical Success Factors

There several key factors in any project that ultimately determine the success or failure of the project. The following critical success factors have been identified for this project:

- ?? There must be strong unified support of the project from all organizations and personnel who have a stake in the project
- ?? A realistic implementation schedule must be established
- ?? The implementation project must be initiated immediately to provide as much time as possible to complete
- ?? Key personnel must be committed to the project and be made available to perform their tasks on the project

- ?? Disciplined project management must be executed to keep the project on track and within budget and schedule constraints
- ?? The objective to provide “no loss of function” must have some guidelines as to what is reasonable considering function versus cost and schedule impact

13 Next Steps: Implementation

13.1 *Implementation project overview*

Major implementation project activities include:

- ?? Project planning
- ?? Develop detailed requirements
- ?? Develop detailed application design
- ?? Program UCIS enhancements
- ?? Program application modifications and interfaces
- ?? Conduct integration and user testing
- ?? Develop user manuals and technical documentation
- ?? Conduct Training
- ?? Convert data
- ?? Production cutover
- ?? Technical support

It is critical to get started immediately on the implementation phase because of the aggressive schedule for implementation.