

Parole Board Management Information System (PBMIS) Replacement Project



Category: Cross-Boundary Collaboration and Partnerships

**A Joint Project by
Oregon's Department of Corrections (ODOC)
&
Board of Parole and Post-Prison Supervision (OBPPPS)**

Project Dates/Costs

Initiation Date: April 4, 2014

Completion Date: September 21, 2015

Effort (0.8% over estimate): 15,275 hours

Cost (4% under budget): \$796,756

Oregon Department of Corrections Contacts

David Alamein, Chief Information Officer

Bettina Davis, IT Business Support

Roy Bruce, IT Application Services

Project Leadership

Project Sponsor: Brenda Carney, Executive Director, OBPPPS

Project Manager: Diana Fitzpatrick, Information Technology Services, ODOC

Scrum Master: Don Pack, Information Technology Services, ODOC

Executive Summary

The Oregon Board of Parole and Post-Prison Supervision (OBPPPS) was facing imminent failure of the Parole Board Management Information System (PBMIS), which was implemented in 1997. PBMIS was OBPPPS' primary information system for all of their business processes. It was a networked system written specifically for OBPPPS, and provided various unique functions, stored parole board data, and interfaced with the Oregon Department of Corrections' (ODOC) core system, the Correctional Information System (CIS). The current agreement between ODOC and OBPPPS is highly beneficial to both entities, as it reduced the expense and complexity of data exchange between OBPPPS and ODOC. If PBMIS does not function appropriately, the majority of OBPPPS's programmatic functions would cease to exist electronically.

In 2011 the ODOC Information Technology Services (IT Services) began to upgrade all their servers to the 2008R2 Windows Server Operating System. However, by upgrading the server running PBMIS, the PBMIS system would no longer function accurately. Some of the PBMIS code developed in 1997 could not be recompiled or enhanced, as some of the source code was corrupt or missing. Just upgrading beyond Visual Basic 3 (1997 release) was not possible.

To help OBPPPS address this risk, the Oregon Legislature agreed to partially fund an effort to replace PBMIS. This resulted in a joint software development effort between ODOC and OBPPPS to rewrite PBMIS and include functionality missing in the existing system. To correct issues in the existing PBMIS also required changes to ODOC's CIS system.

The software development process followed an "Agile" methodology, focusing on iterations of incremental product development. However, the entire system had to be completed and deployed simultaneously, as a waterfall implementation.

This project aligns with the NASCIO 2016 category and requirements for Cross-Boundary Collaboration and Partnerships.

The new system was deployed September 21, 2015, and a survey was sent to stakeholders six months after system deployment. Comments from members of OBPPPS staff about the new system are provided below.

- It is vastly more efficient and provides time savings when accomplishing basic tasks.
- It is exciting to see the time, energy and money savings that this new system has provided and the potential it offers for the future.
- It will minimize the human error by having the system do several tasks automatically.
- Adding Victim Notifications functionality is a significant upgrade. It is a major benefit and more efficient for the system to update CIS victim notifications
- Adding Release Planning functionality and automating these updates to CIS will reduce paper usage, increased staff efficiency and accuracy.
- The platform allows for future enhancements such as Sex Offender Notification Levels.

The new PBMIS system is user friendly and has created greater efficiency and transparency for most agency functions.

Project Narrative

Concept

Problem: The Oregon Board of Parole and Post-Prison Supervision (OBPPPS) was facing imminent failure of the Oregon Parole Board Management Information System (PBMIS), which was initially implemented in 1997. PBMIS was the primary information system for all OBPPPS business processes.

PBMIS was a networked system, written specifically for OBPPPS and provided various unique functions, stored parole board data, and interfaced with the Oregon Department of Corrections' (ODOC) core system, the Correctional Information System (CIS). The current agreement between ODOC and OBPPPS is highly beneficial to both entities, as it reduced the expense and complexity of data exchange between OBPPPS and ODOC.

OBPPPS does not have full-time programming staff, so rewriting PBMIS was too large a project to accomplish in a reasonable amount of time. Technically, some of the PBMIS code developed in 1997 could not be enhanced due to corrupt or missing source code, and upgrading beyond Visual Basic 3 (1997 release) was not possible.

In addition, the ODOC Information Technology Services (IT Services) needed to upgrade their servers to the 2008R2 Windows Server Operating System, which no longer supports the functions of PBMIS. If PBMIS does not work, the majority of OBPPPS's programmatic functions would cease to exist electronically, and would dramatically affect the ODOC.

Solution: To help OBPPPS address this risk, the Oregon Legislature agreed to fund three analyst positions for one year, and ODOC funded the remainder of the effort. This effort required dedicated resources from both OBPPPS and ODOC IT Services. Significant time was invested by all OBPPPS staff to define and test the new PBMIS. ODOC provided the development team consisting of a half-time Project Manager and two Data Base Analysts, three full-time Developer/Analysts and two full-time Business Analysts.

This joint software development project required collaboration between ODOC and OBPPPS, to rewrite the PBMIS, correct existing application issues, add new functionality, automate and electronically retain various letters, documents and email correspondence and make changes to ODOC's CIS. The new system contains the following modules: Warrants, Sanctions, Hearings, Release Planning, Victims Notification, Case Management, and Records Information. Retaining this electronically makes it possible to provide additional information to other ODOC applications and outward facing systems.

Guiding Principles: The PBMIS Replacement Project followed ODOC's IT Services Project Management methodology (PMBOK based). The project team facilitated:

- Close communication, collaboration, and interactions;
- Business experts and developers working together throughout the project;
- Frequent reviews of development to verify accurate functionality;
- Continuous attention to technical excellence and good design.

This software development project also followed an “Agile” methodology, focusing on iterations of incremental product development. However, the entire system had to be completed and deployed simultaneously, as a waterfall implementation.

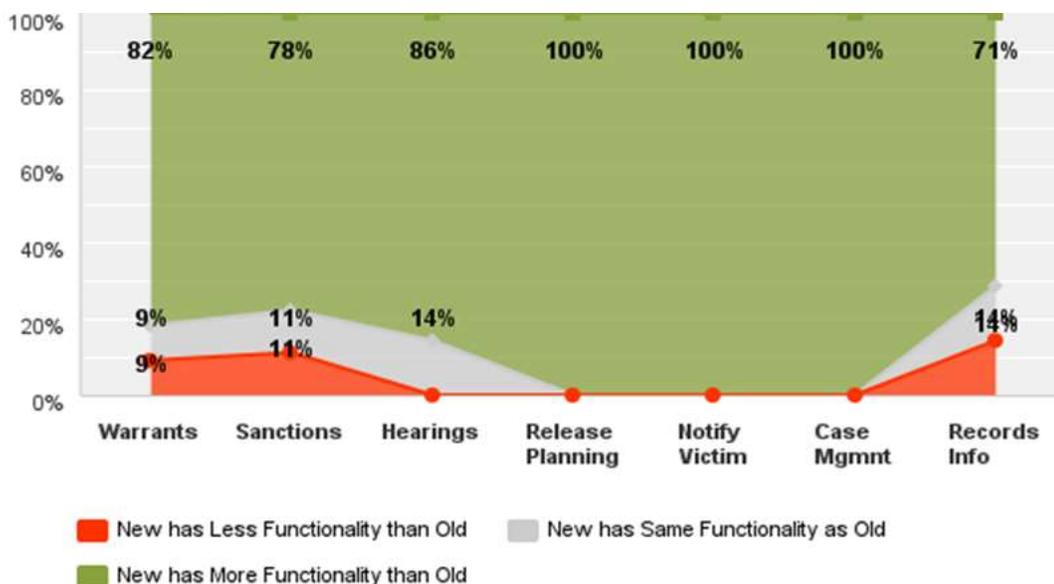
Tasks and functions were identified for each iteration, and required the project team to work through a full software development cycle, including planning, requirements analysis, design, coding, developer testing, and user functionality testing for each module. Since the deployment was not incremental, final user acceptance testing occurred after the entire system was built.

Significance

The new system was deployed on September 21, 2015. After six months, a survey was sent to all project team members (including all OBPPPS staff members, the Parole Board’s committee members, and ODOC IT Services’ project team members) to compare the functionality of the new vs. the old system. The survey results are provided below.

Figure 1 – Systems Functionality Comparison

Comparison of available functionality between new and old systems



Comments from OBPPPS’s staff members about the new system are provided below.

- It is more efficient and provides time savings when accomplishing basic tasks, retrieving information, avoids redundant navigation, with more sortable/searchable information per page.
- It is exciting to see the time, energy, and money savings that this new system has provided, and the potential it offers for the future.
- It has significantly enabled the agency to reduce its use of paper.
- Human errors are minimized by having the system do several tasks automatically.

- Data and relationships are being captured that were previously missed.
- Adding Stakeholder Notification functionality, and updating the notifications in CIS are significant upgrades.
- The platform allows for future enhancements such as Sex Offender Notification Levels.
- OBPPPS staff members now understand the system's functionality, business rules, and the what and why of various business processes.
- Multiple ODOC IT staff now have system and source code knowledge.
- Data and relationships are being captured that were previously missed, and information is easier to find and read.

Impacts and Results

The new PBMIS created greater efficiency for staff workload by reducing the number of steps taken through the automation of certain tasks. It also reduced agency costs by substantially decreasing the amount of paper generated by staff workload through daily tasks. Most documents are now stored electronically in PBMIS rather than printed for review.

Application metrics on utilization of the new PBMIS are provided in Tables 1 and 2 below. Users noted in the metrics below refer to OBPPPS staff and Parole Board committee members.

Table 1 – PBMIS High-Level Application Metrics (between 9/21/2015 – 5/2/2016)

| Product Metrics | |
|---|---------------|
| 1. Total Number of Users | 67 |
| 2. Total Decisions Added | 16,010 |
| 3. Total Documents Added | 17,455 |
| 4. Total Stakeholder Notifications | 59,793 |

Table 2 – PBMIS Application Metrics (as of 5/2/2016)

| Product Metrics | | |
|--|------------------------|----------------------|
| 1. Decision Counts <i>Includes the count of approvals, notes, and votes made by the Parole Board's Committee members</i> | Decision Type | Count |
| | • Releases | 3135 |
| | • Hearings | 247 |
| | • Inactive Supervision | 329 |
| | • Sanctions | 3593 |
| | • Amended Order | 508 |
| | • Revoke | 23 |
| | • Extend | 1272 |
| | • Expiration | 2298 |
| | • Warrant | 3853 |
| | • Other | 752 |
| | | Total: 16,010 |

| Product Metrics | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|----------------------------------|--------------|--------------------------------|------|------------------|-------|------------------------------|------|--------------------------------------|-----|-------------------|----|--|------|-----------------------|-------|---|----|------------------------------|----|-----------------------|-----|--|------|--|----|-----------------------------------|-------|---|----|------------------|---------------|---------------------------------|------|--|------|---------------|---------------|
| <p>2. Document Counts</p> <p><i>Includes the count of all automated letters, email, written requests, orders, warrants, uploaded documents, etc.</i></p> <p><i>(Excluding Stakeholder Notifications)</i></p> | <table border="0"> <thead> <tr> <th style="text-align: left;"><u>Documents</u></th> <th style="text-align: right;"><u>Count</u></th> </tr> </thead> <tbody> <tr><td>• Amend Supervision Conditions</td><td style="text-align: right;">505</td></tr> <tr><td>• Amend/Continue</td><td style="text-align: right;">3374</td></tr> <tr><td>• Parole Board Action Form</td><td style="text-align: right;">653</td></tr> <tr><td>• Certificate Supervision Expiration</td><td style="text-align: right;">32</td></tr> <tr><td>• Compact Request</td><td style="text-align: right;">26</td></tr> <tr><td>• Errors Returned to Parole Officer (PO)</td><td style="text-align: right;">1798</td></tr> <tr><td>• Extradition Request</td><td style="text-align: right;">38</td></tr> <tr><td>• Post Prison, Cite to Show Cause Letters</td><td style="text-align: right;">2</td></tr> <tr><td>• Offender Expiration Letter</td><td style="text-align: right;">87</td></tr> <tr><td>• Order of Revocation</td><td style="text-align: right;">229</td></tr> <tr><td>• Order of Supervision - Extend</td><td style="text-align: right;">1282</td></tr> <tr><td>• Order of Supervision –Supervision Review</td><td style="text-align: right;">62</td></tr> <tr><td>• Order of Supervision Conditions</td><td style="text-align: right;">3254</td></tr> <tr><td>• Parole Expiration Letter</td><td style="text-align: right;">21</td></tr> <tr><td>• Sanction Other</td><td style="text-align: right;">49</td></tr> <tr><td>• Supervision Expiration Letter</td><td style="text-align: right;">2307</td></tr> <tr><td>• Warrant Authorization/Suspension Order</td><td style="text-align: right;">3736</td></tr> <tr> <td style="text-align: right;">Total:</td> <td style="text-align: right;">17,455</td> </tr> </tbody> </table> | <u>Documents</u> | <u>Count</u> | • Amend Supervision Conditions | 505 | • Amend/Continue | 3374 | • Parole Board Action Form | 653 | • Certificate Supervision Expiration | 32 | • Compact Request | 26 | • Errors Returned to Parole Officer (PO) | 1798 | • Extradition Request | 38 | • Post Prison, Cite to Show Cause Letters | 2 | • Offender Expiration Letter | 87 | • Order of Revocation | 229 | • Order of Supervision - Extend | 1282 | • Order of Supervision –Supervision Review | 62 | • Order of Supervision Conditions | 3254 | • Parole Expiration Letter | 21 | • Sanction Other | 49 | • Supervision Expiration Letter | 2307 | • Warrant Authorization/Suspension Order | 3736 | Total: | 17,455 |
| <u>Documents</u> | <u>Count</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Amend Supervision Conditions | 505 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Amend/Continue | 3374 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Parole Board Action Form | 653 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Certificate Supervision Expiration | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| • Offender Expiration Letter | 87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Order of Revocation | 229 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Order of Supervision - Extend | 1282 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| • Order of Supervision Conditions | 3254 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Parole Expiration Letter | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Sanction Other | 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Supervision Expiration Letter | 2307 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Warrant Authorization/Suspension Order | 3736 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total: | 17,455 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>3. Stakeholder Notification Counts</p> <p><i>Includes counts of all notification (informing stakeholders of an inmate’s hearings, discharge, death, etc.) sent to various stakeholders, such as victims, judges, county POs and release counselors.</i></p> | <table border="0"> <thead> <tr> <th style="text-align: left;"><u>Stakeholder Notifications</u></th> <th style="text-align: right;"><u>Count</u></th> </tr> </thead> <tbody> <tr><td>• Parole Board Action</td><td style="text-align: right;">7897</td></tr> <tr><td>• Confirmation</td><td style="text-align: right;">18317</td></tr> <tr><td>• Custom Notification Letter</td><td style="text-align: right;">3132</td></tr> <tr><td>• Deceased</td><td style="text-align: right;">102</td></tr> <tr><td>• Discharge</td><td style="text-align: right;">33</td></tr> <tr><td>• Expiration</td><td style="text-align: right;">823</td></tr> <tr><td>• Hearing</td><td style="text-align: right;">10295</td></tr> <tr><td>• Hearing in Person</td><td style="text-align: right;">10</td></tr> <tr><td>• Hearing Teleconference</td><td style="text-align: right;">3</td></tr> <tr><td>• Inactive</td><td style="text-align: right;">154</td></tr> <tr><td>• Parole/Post-Prison Supervision Order</td><td style="text-align: right;">28</td></tr> <tr><td>• Release Matrix</td><td style="text-align: right;">17</td></tr> <tr><td>• Release Date Set</td><td style="text-align: right;">18971</td></tr> <tr><td>• Short Term Transitional Leave Release</td><td style="text-align: right;">11</td></tr> <tr> <td style="text-align: right;">Total:</td> <td style="text-align: right;">59,793</td> </tr> </tbody> </table> | <u>Stakeholder Notifications</u> | <u>Count</u> | • Parole Board Action | 7897 | • Confirmation | 18317 | • Custom Notification Letter | 3132 | • Deceased | 102 | • Discharge | 33 | • Expiration | 823 | • Hearing | 10295 | • Hearing in Person | 10 | • Hearing Teleconference | 3 | • Inactive | 154 | • Parole/Post-Prison Supervision Order | 28 | • Release Matrix | 17 | • Release Date Set | 18971 | • Short Term Transitional Leave Release | 11 | Total: | 59,793 | | | | | | |
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| • Deceased | 102 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Discharge | 33 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Expiration | 823 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Hearing | 10295 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Hearing in Person | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Hearing Teleconference | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Total: | 59,793 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Six months after implementation of the new PBMIS system a user survey was conducted. The table below contains the average scores of all survey responders.

Table 3 – Survey Scores

*Numbers in () represents the number of responses with that score.

| Question | Strongly Agree | Agree | Neither Agree or Disagree | Disagree | Strongly Disagree |
|--|-----------------|-----------------|---------------------------|---------------|-------------------|
| System Usability: Average of All Modules | | | | | |
| The system is user-friendly. | 17% (3) | 78% (14) | 6% (1) | 0% (0) | 0% (0) |
| Able to use features and have mastered common tasks. | 17% (3) | 67% (12) | 6% (1) | 11% (2) | 0% (0) |
| The system is easy to navigate and accomplish your work. | 17% (3) | 61% (11) | 11% (2) | 11% (2) | 0% (0) |
| The project’s success criteria were achieved. | 26% (6) | 74% (17) | 0% (0) | 0% (0) | 0% (0) |
| System Usability: Totals | 20% (15) | 70% (54) | 5% (4) | 5% (4) | 0% (0) |
| Business Outcomes: Average of All Modules | | | | | |
| Accuracy of information will increase. | 28% (5) | 61% (11) | 11% (2) | 0% (0) | 0% (0) |
| Increased speed of accessing and updating Information. | 22% (4) | 50% (9) | 22% (4) | 6% (1) | 0% (0) |
| Efficiency of staff and Committee Members will increase. | 28% (5) | 50% (9) | 22% (4) | 0% (0) | 0% (0) |
| Business Outcomes of Project: Totals | 26% (14) | 54% (29) | 18% (10) | 2% (1) | 0% (0) |

Conclusions

A joint software development project between OBPPPS and ODOC was concluded and a new system deployed before a critical failure occurred, which would have removed the capability of OBPPPS to perform their legislatively required functions.

The new system contains existing PBMIS functionality, corrects existing application issues, adds new functionality, automates and electronically retains various letters, documents and email correspondence (which were previously paper based or not retained). Retaining this electronically makes it possible to provide the additional information to other ODOC applications and outward facing systems.

The new PMIS is more user friendly, which has increased staff’s accuracy and efficiency by reducing the number of steps taken, and the instances of human error through automation of tasks. It has reduced agency costs by decreasing the generation of paper documents, now stored electronically in PBMIS. This process also leads to increased transparency for public records requests, as the information is more readily available and easier to find. PBMIS development has also strengthened the partnership between ODOC and OBPPPS through shared resources.