



OPTIMOS

Optimos Enterprise Case Management Solution Case Study

Case Management and Reporting System *CMRS*

National Archives and Records Administration



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Background

This deployment demonstrates Optimos' capabilities to help government develop Siebel solutions in a phased approach, as well as Optimos' ability to deploy Siebel solutions that provide multiple channels to transact in a paperless environment.

The National Archives and Records Administration (NARA) is an independent federal agency that preserves, manages, and provides ready access to federal records. Both federal agencies and the public rely on NARA to support a wide variety of information requests. NARA enables officials and agencies to review their actions and helps citizens hold them accountable for those actions. The National Personnel Records Center (NPRC) is one of the largest entities of NARA. It consists of two divisions: Civilian Personnel Records and Military Personnel Records (MPR). The MPR facility provides medical records and personnel information for nearly all members of the armed forces who served in the 20th century.

Business Challenge

The MPR has two types of approximately 54,000,000 Official Military Personnel Folders (OMPFs). MPR did not have a system to interface with these computer-indexed files. MPR also did not have the resources to retroactively index 17,000,000 self-indexed OMPFs. In addition to these records, MPR has 39,000,000 additional auxiliary records, including personnel, medical, and payroll records. Moreover, each of the military service branches now digitizes its paper records of OMPFs.

The MPR employs a staff of approximately 313 full-time and 100 part-time employees. It receives more than a million requests for records each year. It took approximately 12 to 15 weeks to process a reference request and case backlog had grown to 140,000. Except for a few indexing and cross-referencing processes, MPR provided reference services in the same manner as the 1960s. Between arrival and response time, a typical reference request was handed off 13 times. This process for filling requests resembled that of an assembly line. Often, requests were returned for additional information. Reference services lacked the functionality and efficiency that could be provided by leveraging information technology. MPR's main objective with this program was to design and implement a state-of-the-art case management and reporting system that would help automate several processes while increasing overall operational efficiencies and customer satisfaction.

In addition to the core program objective, there were several other project specific goals:

- Reduce response time from 12-15 weeks to less than 10 working days
- Reduce the overall backlog of request cases
- Reduce required follow up requests to less than 5 percent from 25 percent
- Provide more contact options to veterans such as web, phone, fax, and e-mail
- Maintain costs within parameters provided by DOD

Our Solution

CMRS, eVetrecs, and eMilrecs

Based on the high-level vision provided by the NPRC program management office, Optimos provided a very structured results oriented approach to attaining NARA's program objectives.

The initial few months of the project focused on establishing a solution platform and infrastructure necessary for a robust foundational framework. During this stage, Optimos worked closely with business users, who provided detailed process information and functional requirements. Optimos analyzed the existing streamlined processes and worked with NARA staff to identify areas for automation and improvement. We analyzed the current technology platforms in use to ensure alignment with NARA's enterprise architecture.

Based on a detailed analysis of processes and business requirements, Optimos established that the Siebel eBusiness Application platform could be leveraged to fully meet the program objectives. During this initial phase of detailed design and prototype, Optimos provided NARA with a conceptual solution design and a detailed design on how the solution platform would provide a solid foundation framework. A detailed fit-gap analysis was conducted to establish areas of configuration. The solution was designed to provide the public the capability to submit online requests and provide a robust internal application to record, track, manage and respond to all requests. The internal application was designed to leverage the workflow and assignment capabilities of the system platform for automation purposes.

After several design reviews by NARA and Siebel Systems, NARA decided to move forward. The solution, **CMRS**, was developed and tested prior to the initial deployment. The entire solution was developed within 1 year of the approval. An extension to the Siebel Commercial Off-the-Shelf (COTS) application was also created, allowing new cases to be received electronically and converted to digital electronic images in the mailroom as they are received. The CMRS application then processes the case by getting relevant details about the veteran and querying the MPR Registry. Once it finds required hits in the registry, it automatically creates a Search Request, to search for the record in the stacks. It also assigns the case to a technician based on their availability, workload, and skills. The solution was deployed on an infrastructure that was carefully designed and architected to support both current and future operations for up to 5 years. The systems architecture was designed to be flexible, scalable, and upgradeable while ensuring compliance with NARA's published architecture guidelines.

NPRC manages records as a custodian for the Department of Defense (DOD). The CMRS system manages records during the entire request lifecycle. Separation Documents, such as the DD214 are directly scanned into the system, allowing them to be reused and readily accessed by agencies such as the Social Security Administration. These scanned records

are stored and indexed in a database and can be easily accessed using multiple search criteria such as name, date of birth or the social security number.

The solution assists in case analysis by providing on-line help aids and easy accessibility to external reference databases including digital OMPFs. It also aids in the retrieval and tracking of the physical records and correspondence. The system is equipped with robust status accounting, work metric measurements, and management reporting capabilities using Siebel eAnalytics. These critical features support web and telephone based case status to process customer billing, evaluate team performance, and plan refinements to the business processes associated with reference services. Finally, the system is integrated with the Office of Regional Records Services Target System for providing efficient billing information to the Department of Defense.

This solution also provided a web-based interface, **eVetrecs**, for the public to request military personnel records online. For ease of use, the system was designed using the Siebel eAdvisor modules that provide a very structured mechanism for identifying customer needs, while capturing information for the request. Due to the signature requirements for release of private information, the requestor is instructed to print a copy of the online form to sign and submit via fax or mail. The online copy has a barcode of the case number on it. Upon receipt of the mail, the barcode is scanned to locate the record and the scanned copy of the request with the signature is attached to the request. If the signature page arrives by fax, it goes thru an incoming fax server solution that was implemented with CMRS. It enables the technician to view the signature page to locate and attach it to the right case number within CMRS. It then follows the defined workflow process built within CMRS.

Optimos developed detailed instructional material and delivered end-user training based on a train-the-trainer approach. We then installed a working system in NARA's training room that is used to train staff on the new system. Feedback for system improvements and changes that could be incorporated in future releases are identified during training or during normal day-to-day operations and documented. This feedback is discussed in weekly meetings at the Configuration Control Board (CCB) with the NARA management and, if requested, incorporated into the system.

Following the initial rollout, for the next one year, several enhancements were deployed via this framework. The framework provided a great deal of efficiency both for customers requesting services from NARA and for the internal NARA personnel servicing these requests. The solution provided the capability to track requests from various media such as web, phone, fax, e-mail, and walk-ins. With this rollout, NARA was able to provide the following efficiencies:

- Reduced the overall response time to less than 10 working days
- Reduced the overall backlog of case requests to approximately 45,000
- Reduced required follow up requests to less than 5%
- Provided various contact options to veterans such as web, phone, fax, and e-mail
- Increased internal efficiencies resulting in reduction of costs to align with DOD provided parameters.

After the successful deployment of this solution, the CMRS framework was extended to provide the ability for federal agencies to directly interact with NARA online to request services. This solution, known as **eMilreccs**, provides the ability for federal customers to have valid authorization to request NARA services online. The solution provides the ability for both NARA customers and internal NARA personnel to use bar code functionality to optimize updates to requests.

The CMRS application has a massive amount of data. Executive management within NPRC, and the Department of Defense, needed operational and decision-making reports. Reports were being generated largely by running queries against CMRS and by loading data into another application. Reporting and analysis was proving to be extremely time consuming. Supervisors typically spent an hour a day or more running multiple queries to get the data they needed. Management Analysts were spending more time on extracting, collating, and validating data than on analysis. Faced with these difficulties, NPRC decided to build an analytics solution to meet all their reporting and analytic requirements for CMRS.

Optimos recommended the use of Siebel Analytics to support these more demanding reporting requirements. The solution provides extensive reporting capabilities to Executive Management, Management Analysts, and Operational Managers within NPRC. It also provides direct access to external users in the Department of Defense for all reporting related to CMRS.

The Siebel Analytics solution met several challenges facing NPRC, including:

- Supervisors needed a reporting tool that would enable them to plan daily activities to maximize output and focus on performance goals. Previously, supervisors spent at least an hour a day running queries to identify service requests that were one day short of becoming overdue. Optimos provided a report that identifies such service requests for each employee, each supervisor, each team, and for each department. The customized reports were made available on the Siebel Intelligence Dashboard of every supervisor, making the latest data available at a single click.
- Service request backlog analysis represented an area of major concern for the management analysts at NPRC. Many reports giving different views of the backup were being prepared in a separate reporting application called STARS. It required up to four hours loading the data. These reports are now readily available with a single click from the CMRS Analytics solution implemented by Optimos. Further, the reports have the latest information as data is loaded into the warehouse every day with a fully automated process. NPRC stopped using the STARS system after Optimos implemented the CMRS Analytics solution.
- NPRC Executive Management needed productivity reports by the federal fiscal calendar. Previously, multiple queries had to be run to generate the information with specific date definitions for each of the federal time periods. The management analysts manually ran queries to generate the raw data, then putting it into Excel spreadsheets to massage and format it. Optimos built a custom federal fiscal calendar time dimension providing different levels from federal weeks through federal years. All users can now use this dimension for every possible analysis with the click of a button.

Some additional features of the Optimos solution:

- Backend objects were developed to enable cycle time calculations in workdays as opposed to calendar days, by excluding weekends, federal holidays, and other special non-work days. This gave accurate information of actual time required for the work. This also provided support for setting performance targets in workdays rather than calendar days.
- Complex cycle-time calculations were built into the extract/transform/load (ETL) process to provide pre-calculated information without having to perform calculations at run time. This provided fast responses to users enabling rapid iterative queries for in-depth performance analysis.
- Data loads from CMRS to the Analytics data warehouse were optimized to bring the down the load time to less than three hours so that data could be loaded daily into the data warehouse to provide up-to-date information to users.
- Querying against the operational application has been virtually eliminated. This has reduced a significant part of the query load and improved resource availability for the operational application.
- Query run times now range from 2 to 15 seconds for simple queries to up to three (3) minutes for complex queries that must aggregate large amounts of data. Earlier, simple queries against the operational system ran routinely for 15 to 30 minutes and complex queries could take up to four (4) hours.
- Complex cycle-time calculations were incorporated into the ETL process and the resulting metrics were stored in the data warehouse for faster response as opposed to having calculated variables in the Siebel Analytics repository.

Optimos used a well-defined strategy for user adoption. The first step in the project was to familiarize user groups and management with Business Intelligence concepts and Siebel Analytics capabilities through high-level as well as detailed presentations. This was reinforced through Siebel Analytics demonstrations. Senior Management involvement was sought and received for high visibility. The fear of the unknown had already been removed before the start of the requirements gathering process. The requirements gathering process was also used to further strengthen knowledge of Business Intelligence concepts and Siebel Analytics capabilities. The CMRS Analytics rollout was accompanied by custom designed training for all users. The training, and training material, was designed to enhance ease of use and provide users with a friendly non-threatening environment for learning to use the new product. This overall user adoption strategy resulted in an overwhelmingly positive response.

In addition to easy access, increased information usability, and high user adoption, the Optimos Siebel Analytics solution resulted in a significant push for better data quality. Data Quality Management started to receive greater significance and resulted in significant data quality improvements within CMRS and the data warehouse.

Another major enhancement within CMRS was made when the Archival Records Data Entry project was incorporated using CMRS. The data entry process follows an assembly line approach. A technician enters the data and the record is moved to another technician. The second technician performs the second data entry and when it is saved; the system

performs a check between the two entries based on data matching logic. If the two entries match, the record becomes part of the Archival Record Registry and is available to any incoming requests in real time. If the system finds a discrepancy between the two entries, it flags this record to be reviewed by a supervisor. The supervisor has the ability to look at both entries next to each other for comparison purposes to resolve the conflict. The system also keeps track of errors made by the data entry technicians and presents them on a report so the supervisor can keep track of technician accuracy.

The next phase of the solution was called the Loans and Transfers process. This primarily encompassed functionality to track and manage the end-to-end process of agency user requests for records loans and the corresponding re-file process. The solution was designed based on pre-defined processes that were agreed upon by both NARA and agency customers. It provides the capability to accept and process single and bulk requests for loans from agencies using a web interface. As part of the process, if a record is needed for loan purposes but is currently being used by a NARA technician or another agency, the corresponding request is flagged to be on backorder. All the following loan requests for that record also go on backorder. Once the record becomes available, the request that is on backorder is released into the system on a first in first out (FIFO) basis. If the record is not available within the next 30 days, the agency user receives an auto-generated email informing that the record is not available at this time and the request is cancelled. The Loans and Transfers process involves several such auto-generated e-mails to inform the agency users (customers) about relevant processing updates during the life cycle of a request.

The system is completely automated and requires no human intervention other than searches for paper records from the stacks and transports of these to the agencies. Once the agencies get these records, they wand them in CMRS, thus indicating the receipt of the record for tracking purposes. This wanding is done using the web based CMRS screens. CMRS also generates reminder emails to agency users if a record was received more than 30 days ago and has not been returned. The return process is also tracked within CMRS by using the web based CMRS screens. The Loans and Transfers process has been very successful and the agencies have supported and appreciated the ease of use and customer friendly interface provided by CMRS.

Another major CMRS enhancement currently underway is the CPR Box Tracking System. It is in the second and final phase of deployment. This system tracks the conversion of Public Employee Official Personnel Folders (OPFs) into electronic form. Boxes full of OPFs are received at CPR and they pass through multiple stages of scanning, all tracked by CMRS. Agencies submit a file using the CMRS website, which results in an automated box generation process. The Boxes are then received and packed by the agencies to be sent to CPR. Box packing is done using the CMRS web based screens. The electronic OPFs are uploaded to the National Business Center (NBC), Denver. CMRS processes the confirmation files received from NBC and marks the status for each OPF.

As part of the solution, Optimos has been responsible for all Operations and Maintenance (O&M) tasks from an application standpoint related to the development, quality assurance, and production environments. Optimos has been responsible for recommending hardware, software, and necessary tools required to meet the uptime and compliance requirements. Optimos systems administrators designed and installed all necessary software components to create each environment. All of these are configured on highly redundant RAID configured hardware servers with systems architecture supporting load balancing and failover. The entire solution platform related entities such as the web servers, Siebel

application servers, Oracle Database Server, Integration server, reporting server all support failover functionality. Some components of the failover functionality are configured to support automatic failover while some require manual intervention. All environments are configured and architected to support scalability, adaptability, and flexibility for future enhancements and upgrades.

Optimos is responsible for all application maintenance related tasks such as deployment of production enhancements and upgrades to the software components. Backups are structured based on NARA's requirements and have been performed regularly based on scheduled maintenance intervals. The solution is constantly monitored and there has been negligible unscheduled downtime during its entire tenure of 5 years.

Disaster recovery procedures are documented and tested in preparation for any unforeseen disaster. Regular tape backups are sent to a remote site to ensure restore capability of the solution platform, in case of disaster to the entire server room.

From a security standpoint, Optimos systems administrators have been constantly monitoring all activities related to the solution platform. All government published security policies have been implemented to ensure compliance.

In addition to systems administration support, Optimos has provided Tier II application support for all customer issues. These issues are periodically analyzed and necessary permanent fixes have been deployed in the production environment, resulting in a reduction in helpdesk tickets.

Optimos' approach to performing O&M tasks, including application helpdesk support, has enabled us to provide a zero unscheduled downtime environment for more than 5 years. The only system downtime experienced thus far has been during deployment of new modules or during maintenance, which has always occurred during off-business hours.

Optimos has effectively incorporated major new functionalities into CMRS without affecting the existing application. Not only has the Optimos team successfully developed and added new solutions to the CMRS application, they have handled Operation and Maintenance in a way that has exceeded NARA expectations.

Conclusion

Optimos' Siebel-based solution — the Case Management and Reporting System - CMRS, has enabled the National Personal Records Center to successfully streamline the management of all case requests.