



Shared Enterprise Applications

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Illinois Department of Revenue

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EXECUTIVE SUMMARY

What began as an initial Desktop application being shared across agencies has blossomed into multiple applications, both Desktop and Web-based being reconfigured for multiple tenants of use within the same data and architecture with security provided by user roles and Active Directory Permissions.

In 2016, the Shared Services model for Human Resources (HR) that provided HR services for multiple agencies was disbanded and personnel were placed back in their individual agencies. Personnel data for each of those agencies was contained in a single **Human Resources Information System (HRIS) system** supported by the Illinois Department of Revenue. The personnel resources would still need to use this system when they were housed elsewhere in the enterprise, so an additional layer of security was added to this application.

Other agencies heard about this system that was available for multiple agency use. One large agency, the Department of Human Services (DHS), employing about 13,000 employees was managing their employees with simple spreadsheets. Their need provided an opportunity to expand the use of the application across more of the enterprise than merely those few agencies initially included in Shared Services.

In February 2017, we began to implement HRIS at DHS. It took 8 months and significant manual effort to enter the information into HRIS, but the benefit has been immeasurable. Not only does this system assist with the onboarding of new employees, transfers and promotions, but it allows the agencies to provide timely responses to Freedom of Information Act (FOIA) and Governor's Office inquiries. Additional agencies have embraced HRIS and we now support 15 agencies in this system.

Following the success of the HRIS business model, a second application seemed worthy of sharing across agencies. **The Fleet Management System (FMS)** provides an electronic means of documenting details regarding state vehicles, including pool, individually assigned and maintenance vehicles. This system allows users to enter their travel details including mileage and expenses and reconciles those expenses with the download provided by the state's credit card vendor. The system also reminds drivers when oil changes and emission checks are due, and will notify the driver when their license is expiring in ample time to complete these tasks. The first additional agency came on in May 2018 and we now have 11 agencies using this system.

Two other applications – the **Legislative Tracking System (LTS)** and the **Telecommunications Invoice Approval (TIA)** – are following suit and accommodate multiple tenants. LTS added its first additional tenant on July 31, 2018 and there are six agencies active in this solution. TIA added an additional agency in October 2018; there are two agencies in-process and eight more that have requested to be included.

The LTS application was designed for multi-tenancy from the initiation stage. The other applications were legacy applications that had this additional security layer added. Many agencies have benefitted from the manhour savings – not only from the development side, but also from the user side. These applications are saving thousands of hours annually. Some applications will eventually be replaced by our SAP solution. The systems will continue to provide efficiencies as the conversion to the SAP system will be standard for all agencies using these shared systems.



CONCEPT

The idea of sharing applications began with the first desktop application which sparked ideas for additional applications and sharing. DoIT/Rev recognized the value to the state and taxpayers in writing one application that could be used by many agencies, rather than building like systems over and over. This was a logical concept for any application that was not specific to a business purpose, but rather served a generic need by all agencies. The idea of sharing applications was expanded to include other applications serving similar needs across the enterprise.

HRIS (Human Resources Information System)

The management of employees in each state agency rests with the agency. With no enterprise-wide solution, the Shared Services Human Resources team housed at the Illinois Department of Revenue (IDOR) asked the Information Technology team to develop an HR system for their use and HRIS was introduced in 2011.

After many years of modifying and enhancing the system, HRIS had become a reliable tool that met the users' needs. Employee information, emergency contacts, transactions for salary increases, promotions and transfers, evaluations, the status of open positions and a general notes area were included and provided a one stop shop for employee and position information.

When the Shared Services model that served eight agencies was disbanded, the employees in the Shared Services team were placed into the agencies that they had served. This caused an issue, because the HRIS system retained the information for all of these employees. Creating copies of the application for each agency was considered, but a principal concern was that previously specialized roles were transitioning to broad HR capabilities within each agency and those resources needed access to all data for a period of time.

An additional concern was the ability of the other agencies' technical staffs to support the application, in addition to the wasted time and effort to do so. The HR staff also wanted to be able to take advantage of future changes made to the core system without having to make the changes multiple times. The best solution for the state to meet the users' needs in the timeframe required was to add a layer of security to the existing application and allow all of the individual agencies to use the main system. This was completed in about two (2) months.

Other agencies asked to be included. DHS was the first to ask to be added. DHS employs about 13,000 people and the only electronic means of managing their staff was an Excel spreadsheet. The decision to move forward was quickly made.

After the success of adding such a large agency, HRIS was offered to other agencies. Some agencies have systems of their own, but for those who did not have a system HRIS has been a welcome solution. There are now 15 agencies enterprise-wide using this application.

Illinois is considering moving to an enterprise-wide SAP module for Human Capital Management (HCM). Having multiple agencies using one system in the interim will make the conversion effort easier. The data going into SAP will also be "cleaner" as agencies are doing that cleanup as they migrate to HRIS.

FMS (Fleet Management System)

The FMS system became popular across the enterprise as the fleet managers were made aware of its capabilities during quarterly exchanges. Revenue's Fleet Manager described the features and benefits of the system that DoIT/Rev had built and other fleet managers asked to see demonstrations. Many agencies requested to be included in the system. The Web-Based application was re-architected for a public facing web-server with additional security layers using Illinois.gov Active Directory accounts/groups to accommodate multiple agencies' access. The system accepts pictures from cellular devices for receipts and for cost recovery purposes.

Having one system shared by many allows agencies to take advantage of system enhancements. One significant enhancement was to allow pool cars to be reserved and approved online without the intervention of the travel staff. Agencies can choose to turn on this feature and immediately realize the benefits. There are now 11 agencies using this in production with three more in the queue.

LTS (Legislative Tracking System)

The LTS system was initially developed at the IL State Treasurer's Office (STO) when the current Revenue CIO was there. When approached by the Legislative Affairs (LA) Program Administrator who was looking for a system to track bills of interest and responses from affected staff, she had a solution.

In collaboration with this separate constitutional office, DoIT/Rev and STO agreed to trade the LTS system for the TIA system (explained next) to solve a need for each entity. The base code for LTS was brought to IDOR and representatives from two additional agencies were included in the requirements discussions. The intent from the beginning was to make this a multi-tenant application, so incorporating other agency needs was crucial.

This system allows the LA team to document bills that are potentially of interest to the Agency. The LA team can then indicate which business areas have potential impact, request an evaluation and respond with an impact statement and level of effort required should the bill pass. These requests were previously sent out through email. The LTS system allows each user to document their input for that bill, making the responses visible to anyone associated with the bill.

The system also provides a dashboard for both the LA team and the business areas to know when responses are due. This dashboard is much superior to email in managing responses.

As part of the multi-tenant approach, the Security System Administrator role and additional business user roles were created within the application. Once designated for the onboarded agency, the Security System Administrator role allows the designee to administer the security/roles directly for their agency without IT involvement. Users who access the web application directly using Illinois.gov account credentials who have not been assigned permissions, are allowed (through the online application) to request a specific role directly from their Agency Security Administrator. Each agency administers rights to the system as deemed appropriate.

There are currently six agencies using LTS in addition to the Treasurer's office.

TIA (Telecommunications Invoice Approval)

The default method for the State of Illinois to have employees approve their phone usage is to have each agency print pages for their employees and cost centers. There are 90,000 pages printed each month and it requires seven people to spend an entire day preparing these reports for distribution to the agencies. Then, each agency must provide additional manual effort for photocopying, stapling and distributing reports to employees, and then tracking those that have been returned, following up on those that have not been returned, and storing the documents for years. When auditors need to review the reports, they currently go to the paper archives.

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The electronic version allows the records to be sent electronically to DoIT/Rev for all participating agencies. DoIT/Rev then loads the records and prepares them for each agency. A notification is sent to each agency when records are ready for review. Employees can then go online and review and approve the phone records electronically. If there are exceptions, the employee can provide justification. Reimbursements are indicted in the record.

The State of Illinois has moved to VoIP phone capability which as reduced the cost of calls significantly, yet the cost of lost productivity remains the true cost when usage is excessive. Many managers still want to review the number, frequency and length of calls their employees make to ensure they are focusing on their job duties.

TIA is the most recent of our shared applications. There are currently two agencies using it in production, two are in the process of onboarding and eight more expected.

SIGNIFICANCE

Although not an official “Shared Services” model, the result is the same. This was a grass roots effort by the agencies to share best practices and solutions so that taxpayer dollars are used efficiently and effectively. An application that satisfies a business need for one agency will satisfy that same need for other agencies. At times, there were minor modifications necessary to accommodate a need or desire from the other agencies. These changes were incorporated and the end result was a more robust solution for everyone.

Having a single application used by many allows for data collection and reporting to be consistent. As changes are required - such as through legislative mandates - they are made one time in a single application and propogated throughout the state. This practice supports consistency across the enterprise.

This approach has enabled smaller agencies that may not have the resources or the technical capabilities to create a solution to also participate and benefit. These applications have been made available at neither intitial charge nor ongoing maintenance fees. The value of providing enterprise solutions far outweighs the concern to recoup costs from other executive branch agencies.

An additional benefit to providing an enterprise solution has been the data clean-up effort required for agencies to participate. Agencies are required to cleanse their data before it is brought in. In many

cases, obsolete records are deleted and information is re-organized so that the system only contains relevant and accurate information.

Each of these applications has provided opportunities for collaboration among state agencies, rather than continuing to create similar solutions. The State of Illinois has been able to accomplish more enterprise-wide and save taxpayer dollars through efficiency, instead of creating separate solutions or continuing manual and paper processes.

IMPACT

HRIS (Human Resources Information System)

This system provides accurate and current employee and position information that is not available in any other system. The State's master HR system is up to 6 months behind in transactions, retaining dated information.

The largest quantifiable benefit is the hours of manual effort saved when reports are requested. Information is often needed in response to Freedom of Information Act or other request. A sample common question would be "How many veterans did you employ from January 1, 2017 through December 31, 2018?" To answer this question previously would require days combing through paper files looking at all current and previous employees who were active employees during that time frame. One such question required four days to provide this answer with three HR representatives scouring through the paper files. That agency is now using HRIS and can provide the answer within a minute by submitting a simple query through the ad hoc report feature.

The State will also recognize much savings when the HCM module of SAP is implemented. Conversion of data is generally one of the largest efforts when converting to such a system. With 15 agencies currently in the HRIS system and more in the queue, this conversion effort will be greatly minimized. One conversion effort will essentially handle the conversion for all agencies in the system.

FMS (Fleet Management System)

The primary goal of FMS was to automate an incredibly cumbersome process of accounting for fleet vehicle usage in order to comply with the rules governing fleet vehicles. During this process, many process improvements were imagined and incorporated into the design with both administrative and end-user staff benefiting. Essentially, the system makes fleet management faster, more accurate and simpler to administer. This savings, coupled with many process improvements, has a ripple effect on all other areas that either rely on the data or have a need to review the data. These areas include HR for the calculation of fringe benefits used to calculate paychecks for select individuals and Internal Audit who reviews the fleet management function frequently.

The amount of time and money saved by Fleet Managers who balance cost reports submitted by fleet users for gas, vehicle maintenance, mileage and online notification of maintenance due, is estimated at 800 man-hours per year. Fleet Managers use a simple user interface with a grid that combines WEX data and data submitted by fleet users which quickly highlights reporting discrepancies, errors and or data missing that is sent back for correction.

Automating the notifications has also eliminated audit findings which identified oil changes and emission inspections that had not been done timely. This is a huge benefit for the directors of the agencies who no longer have to defend why maintenance tasks were not completed. Additionally, vehicles longevity has increased due to proper maintenance provided at the appropriate times.

LTS (Legislative Tracking System)

The largest impact for LTS has been the completeness of the analysis that is available to the Legislative team so that they can make better decisions about legislation impact. The dashboard helps ensure that everyone responds. Having all responses available for review provides a global perspective of the situation and a wide-array of opinions to consider.

TIA (Telecommunications Invoice Approval)

Each month it requires 90,000 printed pages and seven days to generate the paper reports at DoIT. Each agency's effort is roughly five minutes per employee. This effort equates to approximately \$6,300/month in savings when all agencies are on board. Additional savings will be realized with better search capabilities, documentation of reasons for calls made outside of normal business rules, and the reduction of paper that must be stored for years.

Overall Impact

In addition to the individual impacts listed above, sharing applications has broadened the mindset about sharing. There was a hurdle about ownership and control that needed to be overcome when the Fleet Management System was initially introduced. We were able to remove most of these concerns by promoting the fact that FMS is an efficiency tool and using it does not undermine authority over the process. That agency now willingly shares data with us.

DoIT/Rev is preparing to launch another enterprise-wide application for Automated Travel Vouchers. This is an initiative that was intended to be multi-tenant from conception. It will also be shared among other constitutional offices and is intended to become the state standard.

Changing the mindset from siloed agencies into more of a governmental team working efficiently on behalf of the taxpayers provides the best possible return on investment.