

FY 2018-19 IT Capital Budget Amendment Request

Labor and Employment

Unemployment Insurance Mainframe Migration and Modernization

Motion:

Approve the request from the Colorado Department of Labor and Employment (CDLE) for additional cash funds spending authority for the Unemployment Insurance (UI) Mainframe Migration and Modernization project (\$9,750,000 CF).

GENERAL INFORMATION

2017-083

1. Which supplemental criterion does the request meet?

Other

CDLE is requesting additional cash fund spending authority for the UI Mainframe Migration and Modernization project to create a new employment self-service portal and cover additional expenses associated with the remaining phases of the project.

2. Which projects will be restricted to fund the supplemental request?

No emergency restriction is required because the request is occurring during the legislative session.

3. Has the request been approved by OSPB and CCHE?

Yes

PRIOR APPROPRIATION AND SUPPLEMENTAL REQUEST INFORMATION

The appropriation to be amended was authorized in the following bill: SB 17-254

<u>Fund Source</u>	<u>Prior Appropriations</u>	<u>Supplemental Request</u>	<u>Future Requests</u>	<u>Total Cost</u>
CF	\$51,476,960	\$9,750,000	\$0	\$61,226,960
	\$51,476,960	\$9,750,000	\$0	\$61,226,960

REASON FOR SUPPLEMENTAL REQUEST

CDLE is requesting additional cash funds spending authority to complete the UI Mainframe Migration and Modernization project. Cash funds were appropriated for the project in FY 2016-17 and FY 2017-18. According to the department, additional cash fund spending authority is needed to cover additional expenses associated with refactoring the database, modernizing the new system, and creating a new employer self-service portal.

Cash funds. The current source of cash funds is the Employment and Training Technology Fund and the Unemployment Revenue Fund. CDLE is now requesting cash funds spending authority from the Employment Support Fund (\$9,750,000). Current revenues in the Employment Support Fund are generated from a 0.11 percent assessment on employer unemployment insurance premiums.

SUMMARY OF PROJECT

The UI Mainframe Migration and Modernization project migrates the current benefits and employer premium systems onto a modernized computer platform. The project will result in better compliance with federal technologies, minimize benefit overpayments, improve data security, and enhance effective communication with claimants and employers.

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During the project, the department will modernize the Colorado Unemployment Benefits System (CUBS) and the Colorado Automated Tax System (CATS).

With the additional cash funds, the project will also create a new employer self-service portal that was not included in the scope of the original capital budget requests. According to the department, the employer self-service portal is included in this request in order to leverage current vendor resources and continue lower price agreements.

QUESTIONS / OUTSTANDING ISSUES

1. Please provide a high level figure/graph of the unemployment insurance (UI) mainframe system.

See attached.

2. With a short description, please describe what other systems interface with the UI mainframe.

The Internet Self Service (ISS) system is the customer-facing web portal for interacting with the UI Division. ISS is used by claimants for filing claims, submitting appeals, and requesting payments, while employers use ISS to respond to Division requests, submit wage details, and make premium payments. The UI mainframe also interfaces with Salesforce applications used to manage the workflow of UI claims and appeals. The CLEAR system is used for accounting functions and interfaces with the mainframe to manage incoming and outgoing payments. The BARTS and AWARE system is an application which interfaces with the mainframe and manages wage and new hire cross-match and fraud analytics to prevent improper payments. SIDES is a national application used to transmit job separation information to many employers and various third party administrators representing employers. ICON is a mainframe interface used to transmit wage data and separation-related information between different UI programs in other states as well as Federal and military employers. The UI mainframe interfaces with scanning equipment and document repository and printing systems as well. Additionally, the UI mainframe has over two hundred additional file transfer interfaces with other agencies used for transmitting data per approved data sharing agreements.

3. The CATS replacement is in JAVA programming and CUBS replacement is .NET programming. Why two different programming upgrades? Please explain.

The CATS system will live in its migrated language of JAVA as the Division believes this state will serve its needs to operate the premiums side of the business effectively. This decision will save costs. Conversely, due to the complexities of the migrated CUBS code, the Division and OIT does not believe that this new code state will serve the mid to long term needs of the business. Once it was determined in the migration process that CUBS JAVA code could not be incrementally decommissioned as component parts and then refactored/ modernized component by component (as was the original vision) it became clear that CUBS would need to be replaced into a new state. As outlined in the budget amendment narrative the team went through a rigorous process evaluate options on next step options for the benefits system. It was decided that the best alternative (risk, cost, return on investment) was to leverage a known, functioning benefits system which is written in .NET programming.

4. According to CDLE, CUBS will be cloud hosted by Amazon Web Service. Where will CATS be hosted?

The current migration of code for CATS and CUBS will be hosted at eFort by OIT. For the future CUBS system, the benefits application, it will be built and managed at Amazon Web Services (AWS) by OIT, and the CATS system (Premiums) will remain at eFort, also managed by OIT. There was much discussion between OIT and CDLE about where to host the future Benefits application. Going with the Cloud First movement that OIT has sanctioned, it was agreed that based on infrastructure scaling opportunities during hard recessions, and total cost of ownership proving to be almost identical to eFort, moving to AWS made the most sense.

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5. Based on the language at the end of page 4 of the budget amendment request document, it appears that CATS is going to stay in its current technical platform. If this is not the case, please explain.

That is correct. The CATS system will live in its migrated language of JAVA (leveraging an Enterprise Service Bus, Oracle database, and a modern Enterprise Content Management system) as the Division believes this state will serve its needs to operate the premiums side of the business effectively. This decision will save costs. The Division will work with OIT, and leverage common policy staff, to prioritize and execute ongoing premiums system enhancements to the migrated solution on annual basis.

6. Did the department do any data profiling or data analysis of the UI data before beginning the project? Does the department have any data integrity concerns? If so, will this affect any aspect of data compliance?

Prior to the start of the project, the project team had already compiled a detailed set of system functional requirements and specifications including data interfaces, batch processing flows, current data design and data classification. This design was reviewed by the contractor and OIT during the planning for migration to mitigate any potential issues in migrating the data to the new Java/Oracle platform from the legacy system. The project team has a data security subject matter expert (SME) working full time with the contractor to review data classification and ensure that as we go live with the migrated system, any potential data or security vulnerabilities are mitigated and the system is fully compliant with required standards. A project team led by OIT, and comprised of data architects, developers and analysts, is also beginning the planning for the modernization phase. The focus here is on the data extraction/transformation/loading (ETL) as we move major portions of the UI benefits system to its final state (uFACTS). The team does not envision any data integrity issues because of the investments made up-front in engaging SMEs and doing the necessary planning during the migration and modernization phases of the project.

7. CDLE is also migrating and modernizing data for the worker's compensation system. Please explain why CDLE and the vendor are not having the same data and code challenges as the UI mainframe project.

The difference between the Division of Workers' Compensation (DOWC) and UI project is mainly due to size and complexity. The DOWC system is much smaller and simpler in terms of code base size, amount of data, number of batch jobs and number of system interfaces. DOWC is also written in one primary language (ADABASE Natural) whereas UI's system is a mixture Natural, COBOL, Assembler, FTP and transactional processing routines. Although the amount of actual code being migrated is only about twice as large (UI vs. DOWC), the amount of data, number of batch routines and system interfaces is approximately ten times greater. Overall the business logic and the technical operating environment of the UI system was far greater and required more extensive pre-planning and post-migration testing.

8. Is innoWake working on other department projects? Are they experiencing other code-based challenges on those projects?

Aside from DOWC and UI at CDLE, innoWake (now Deloitte) has worked with CDHS on the migration and modernization of the Automated Child Support Enforcement System. That project is in the modernization phase and the contractor is still engaged with OIT and CDHS personnel on enhancing that system which was migrated from ADABASE Natural to Java. We are not aware of any code-based challenges according to our sources.

9. Please provide an update on the \$2.4 million call center upgrade.

The call center upgrade was implemented in two phases in September and October 2017, in advance of the prior system going end of life in November 2017. The implementation included full replacement of the entire telephony system onsite at UI Headquarters including the distinct call centers (benefits, employer services, benefit payment

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control and appeals units) that support business operations (in conjunction with the CATS and CUBS systems). The system also replaced several ancillary support systems such as workforce management, Quality Control system with call/screen recording, chat, and fax systems. UI is still in the early phases of realizing the entirety of benefits the new system provides. To date the realized benefits include:

- *Cloud based-provides redundancy and ability for remote access.*
- *Integration with CUBS and CATS- pulls data from these systems to an automated Salesforce screenpop for agents taking call and chats as well as into the self-service IVR system. This requires less manual searching by agents and, as a result, reduces call handle time thereby increasing in agent capacity (estimated at 3.5%) and improving overall customer service.*
- *Reduction in support needs- already realized staff savings.*
- *Simpler, more intuitive design-easier to make changes in response to program/customer needs*
- *Virtual hold provides customers the option to receive a callback while holding their place in line.*
- *Integrated chat with telephony system allows for better call center management of resources, and improved records management.*
- *Accessibility of a variety of canned/customizable reports is easier for management to access and more intuitive to use. Does not require going through technical support.*
- *Quality Assurance (QA) system- Accessible for agents to search and review calls in order to do follow up and for self review in addition to separate QA formal review.*
- *Anticipated upcoming benefits*
- *Data-pull data from multiple sources into one system for analysis. Anticipated expanded benefits for reporting and dashboards.*
- *QA-new features allow for better quality management, integrated record management that stores call evaluations and allows for data search/trend analysis to better target support needs. Easier for QA staff to use and navigate than previous Excel spreadsheets.*

10. What market research was conducted to support the assumption of an additional \$2.5 million cost for a separate employer self-service (ESS) project?

Critical for the effective administration of UI is technology that works seamlessly together to create proper and efficient backend (staff facing) workflows, and integrates with the premiums and benefits systems. In this project design the employer self-service portal will be developed (leveraging a functioning ESS portal in the UI national space) by the same vendor that migrated the legacy code and the same vendor will be building the uFACTS benefits platform and its integrated claimant self-service portal. This integration of component "parts" is key in creating work efficiencies, customer service functionality, as well as ongoing total cost of ownership efficiencies. Based on our near term market research it is not uncommon for such a ESS vendor product to cost as much as \$10 million as standalone system. For further comparison, the current Internet Self Service UI portal was internally developed (2010-2011) and that cost approximately \$6,800,000 to build and approximately \$650,000 in ongoing maintenance and development annually.

11. Funding for the budget amendment will come from the Employment Support Fund. How is revenue in the fund generated? How is the fund currently being used? Will the use of this fund for this project affect any other department programs?

The revenue is generated as an assessment of 0.11% of each employers unemployment insurance premium. The fund is currently being used to fund part of the Unemployment Insurance Division, Employment and Training Division, Division of Labor Standards and Statistics, and the department's Executive Director's Office. The use of this fund will have no impact on any other department.

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12. The project is currently experiencing a six month delay. Does the new project timeline include provisions for further unexpected delays?

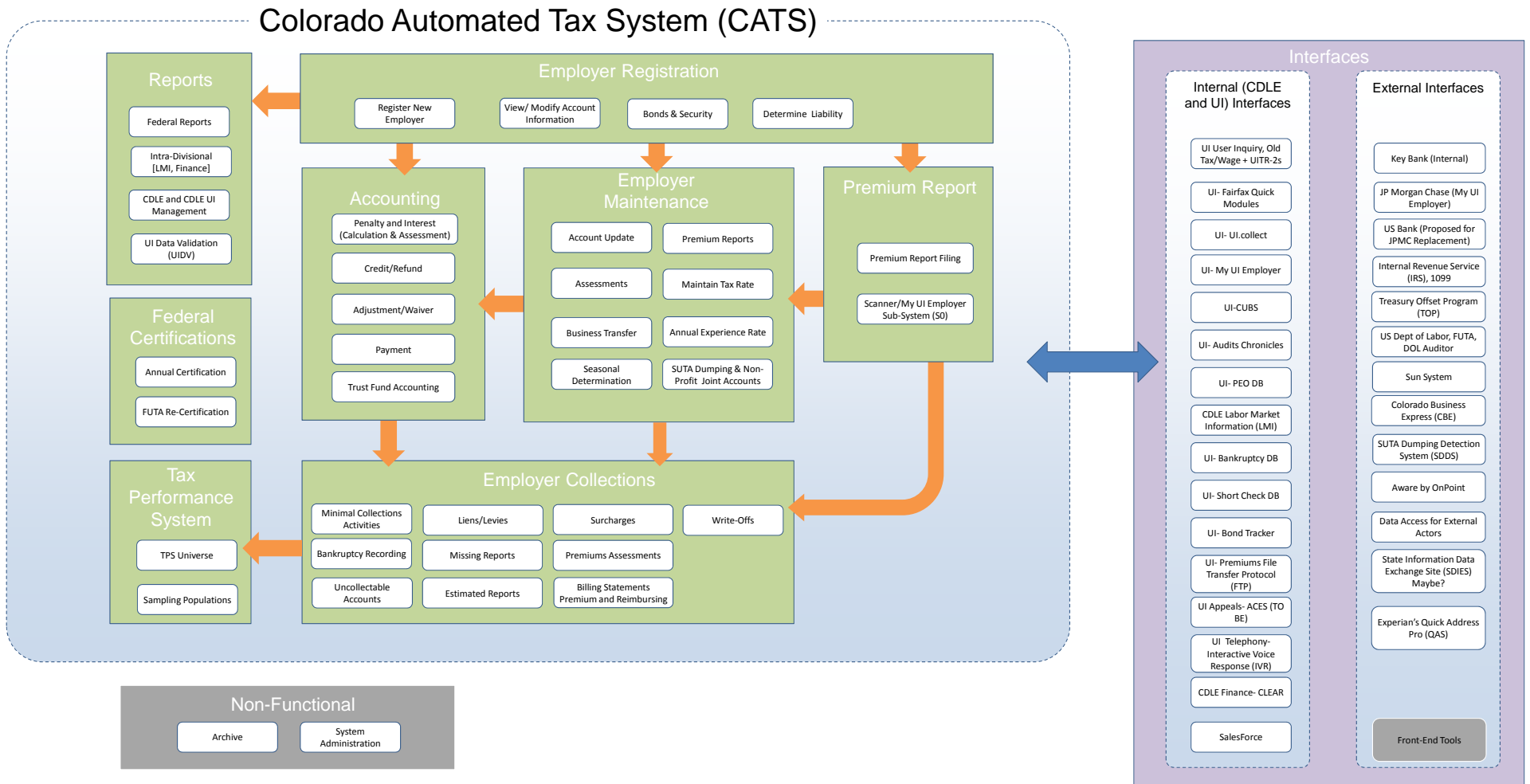
The six month delay is associated specifically with the migration (phase 1) of the project, which is scheduled to end in March 2018. The project timelines for phases 2 and 3 are projections based on level of effort and previous vendor experience with similar projects. Therefore, the timelines are projections not assurances. The vendor will be paid a fixed price for project deliverables in phase 2 and 3 of the project thus those costs should be contained. The Division will be aggressive internally, and with the vendor, on the timelines because it is imperative that the project deliver enhancements as quickly as possible in an effort to best prepare for the next recession- which is an unknown target date.

13. According to the department, the modernization is anticipated to eliminate a considerable amount of manual work. Will this lead to a reduction in staff? Will technical persons currently responsible for the UI mainframe be retrained to maintain the new system?

The Division has 26 FTE from the UI program dedicated and funded by this project. Once the project is complete the Division will reevaluate that FTE count and anticipates with the reduction of manual processes, repurposing staff to direct service positions within the organization to better ensure efficient and effective customer service to claimants and employers. The UI Division's staffing levels, however, will generally fluctuate based on the customer needs (as driven by the economy) and program administration funding from the federal government.

The technical team in place now will be retrained to maintain the new system, barring any attrition.

Colorado Unemployment Insurance Modernization (UIM) Business Architecture



Colorado Unemployment Insurance Modernization (UIM) Business Architecture

Colorado Unemployment Benefits System (CUBS)

