



## Legislative Council Staff

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## Memorandum

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February 15, 2019

**TO:** Joint Technology Committee Members

**FROM:** Andrea Denka, Research Analyst, 303-866-4781  
Joint Technology Committee (JTC) Staff

**SUBJECT:** JTC Staff Analysis of JBC-Referred FY 2019-20 Budget Request  
Colorado Governor's Office of Technology  
R-06 Enterprise Data Integration Services

### Summary of Request

The Governor's Office of Information Technology (OIT) is requesting \$3.1 million in reappropriated funds and 2.0 full-time employees (FTE) to procure an enterprise license agreement (license agreement) with OIT's enterprise service bus (ESB) vendor in FY 2019-20.

### Reason for Referral

This memorandum responds to the December 21, 2018, letter from the Joint Budget Committee (JBC) requesting the JTC to provide a technical review of OIT's FY 2019-20 Enterprise Data Integration Services budget request. The letter stated that the JTC would have more technical knowledge of interfaces, ESB technology, and data sharing.

### Staff Analysis

Generally, staff does not have concerns with the request; however, the support gap analysis OIT conducted and submitted for this budget request showed more resources needed than requested. OIT provided a gap analysis of current hours of work needed to support developing and managing the data integration system and application program interfaces (APIs). This analysis shows a 4.0 FTE equivalent of support needed for further developing the data integration service within the state. This budget request, however, only requests 2.0 FTE. Staff has concerns that the requested funding will be inadequate for a successful implementation. OIT stated that it will be performing ongoing evaluation to determine if future funding for more FTE is needed.

## Request Details

OIT is developing a data integration service, through a contract with an ESB vendor, that will provide access to different data and systems through APIs. Currently, each department that requests APIs for data integration builds the APIs internally through an ESB license loaned out by OIT. The office explains that the ESB license with the vendor is funded when departments request a license to build APIs.

*Justification.* Since departments have been developing their own APIs, OIT states that APIs within the data integration service are duplicative and inefficient, which is time-consuming for staff to monitor and maintain. OIT predicts that the departments will increase their use of ESB technology to create more APIs, which will become a larger burden on current OIT staff, and could cause problems with funding the data integration service in the future.

According to OIT, a license agreement with the ESB vendor will benefit the ongoing development and use of the data integration service. The office states that a license agreement will:

- give the departments unlimited licenses to build APIs through the vendor's cloud system;
- give OIT the opportunity to procure the best price for the ESB license with the vendor; and
- allow OIT to manage security and risk for current and new APIs in a centralized location.

OIT states that the two requested FTEs will reduce the time and money other OIT employees spend on managing APIs. Standardizing APIs makes the process of replicating them for similar projects in the future easier and less costly.

*Cost estimates.* OIT is requesting a total of \$3.1 million for the license agreement and two FTE. The cost of a license agreement with the ESB vendor is \$4 million, but OIT is utilizing existing appropriations from departments using licenses to offset the license agreement price. The \$3.1 million request will be reappropriated from the departments requesting a license in FY 2019-20. The office states that the price of the license agreement has already been negotiated with the ESB vendor.

*Itemized cost information.* OIT itemized the net cost of the request, as shown in Table 1.

**Table 1  
FY 2019-20 Request**

<b>Cost</b>	<b>FY 2019-20</b>	<b>FY 2020-21</b>
Enterprise License Agreement	\$4,000,000	\$4,280,000
Existing Licenses (HR Works, CBMS, Marijuana Data Coordination)*	(\$1,165,656)	(\$1,165,656)
2.0 FTE Senior Developers	\$305,412	\$296,006
FY 2019-20 Net Request	\$3,139,756	\$3,410,350
<b>Total</b>	<b>\$6,279,512</b>	<b>\$6,820,700</b>

Source: OIT.

\*Existing Licenses reflects how much is being spent on department licenses in the current fiscal year. These costs will offset the total ELA price.

**Cost-benefit analysis.** OIT has not yet purchased a license agreement with the ESB vendor. OIT anticipates that in FY 2019-20, the state will reach the \$4 million in project costs needed to buy a cost-effective license agreement. OIT has provided a list of projects that currently use ESB technologies and the cost of the projects that will use ESB licenses beginning in FY 2019-20 (see Appendix A, Costs of Current and Pending Projects That Use ESB Licenses).

OIT estimates its production license cost \$18,000 this past fiscal year, and each department-requested license cost \$9,700. OIT states that it cannot currently negotiate the best price of a license with the ESB vendor because it is difficult to know what the statewide budget for department ESB licenses will be each year. OIT also says price negotiations are difficult because there are a limited number of licenses available for departments to use.

With a license agreement, OIT estimates that the cost for a production license would be \$10,420, and each department-requested license would be \$6,250, a savings of \$8,620 and \$3,450, respectively. Based on the number of licenses OIT expects departments to request for FY 2019-20, OIT expects that purchasing a license agreement will save \$2.7 million.

**Data security measures.** Currently, OIT states that since APIs have been developed by a variety of departments, they are difficult to monitor for security compliance. The state data integration service has the ability to manage and access all APIs from one secure location, but all current APIs live within departments' servers. According to OIT, having a license agreement with the ESB vendor will allow all APIs to be moved onto one cloud platform, which the office can monitor for security compliance.

**Future operating expenses.** OIT states that it will see what the demand for ESB licenses is over the next several years to assess if additional operating funding is needed in the future.

## **Options for Committee Action**

The JTC has three options for committee action when it provides a technical review of an operating budget request to the JBC. The JTC can:

- recommend the request to the JBC for funding, with concerns, as outlined in the JTC Staff Analysis Section;
- recommend the request to the JBC for funding, with no concerns; or
- not recommend the request for funding, with concerns.

**Appendix A**  
**Costs of Current and Pending Projects That Use ESB Licenses**

<b>Department</b>	<b>Project</b>	<b>Type</b>	<b>FY 2019-20 Cost</b>
Health Care Policy and Financing	Healthcare Data Exchange	FY 2019-20 Capital	\$100,000
History Colorado	E106	FY 2019-20 Capital	\$35,000
Human Services	CHATS Modernization	Current Project	\$85,168
Human Services	iNotifyIntegration	Current Project	\$42,584
Human Services	Interoperability	FY 2019-20 Capital	\$1,470,000
Human Services	Judicial SANCA Encryption	Current Project	\$42,584
Human Services	PEAK/LEAP	Current Project	\$85,168
Labor and Employment	Unemployment Insurance	FY 2019-20 Operating	\$1,200,000
OIT	CBMS	Current Project	\$568,179
OIT	HR Works	Current Project	\$330,519
OIT	Marijuana Data Coordination	Current Project	\$266,958
Personnel and Administration	CARS	FY 2019-20 Capital	\$20,000
Public Safety	CCIB	FY 2019-20 Capital	\$70,000
Revenue	GIS	FY 2019-20 Operating	\$195,000
Transportation	CDOT Data Office and Future Projects	Planned Project	\$500,000
<b>Total</b>			<b>\$5,011,160</b>

Source: OIT