



## Legislative Council Staff

*Nonpartisan Services for Colorado's Legislature*

Room 029 State Capitol, Denver, CO 80203-1784

Phone: (303) 866-3521 • Fax: (303) 866-3855

lcs.ga@state.co.us • leg.colorado.gov/lcs

## Memorandum

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February 15, 2019

**TO:** Joint Technology Committee

**FROM:** Luisa Altmann, Research Analyst, 303-866-3518  
Joint Technology Committee Staff

**SUBJECT:** JTC Staff Analysis of JBC-Referred FY 2019-20 Budget Request  
Judicial Department  
R-06 Information Technology (IT) Infrastructure

### Summary of Request

The Judicial Department is requesting \$8.4 million for FY 2019-20, including \$5.6 million in cash funds spending authority and \$2.7 million General Fund, for a variety of IT infrastructure projects.

### Reason for Referral

This memorandum responds to the letter sent by the Joint Budget Committee (JBC) following the staff briefing on the Judicial Department on December 5, 2018, requesting that the Joint Technology Committee (JTC) provide a technical review of the department's FY 2019-20 IT infrastructure budget request. Additionally, JBC staff expressed concerns about the ability of the Judicial Department Information Technology Cash Fund to support the ongoing operating expenses that will result from the projects being requested.

### Staff Analysis

JTC staff believes that the department has provided ample detail and information related to the request and has no significant concerns, especially given that the majority of the request is cash-funded.

### Request Details

The Judicial Department is requesting the following components as part of this budget request. The exact amounts for these components are shown in Appendix A.

*IT infrastructure – \$8.1 million.* This money will be used for a variety of projects to upgrade IT infrastructure in judicial districts across the state. This includes:

- \$4.4 million for a variety of hardware, software, and professional service support related to IT infrastructure, including \$1.9 million for CenturyLink telecommunication and network costs; \$1.9 million for a variety of operations and maintenance software and hardware acquisitions, such as server hardware maintenance, Microsoft datacenter software licensing, and server backup software; and \$0.7 million for operations and maintenance support services;
- \$2.0 million to upgrade the phone, network, and wireless systems at 13 county court locations; and
- \$1.6 million for the replacement of IT infrastructure at locations across the state, including replacing: 78 outdated servers that are distributed across 26 locations with a modern, centralized server solution in five data center facilities; end-of-life routers and switches at 74 facilities; and end-of-life wireless access points at 22 facilities.

*Technical services – \$4.8 million.* This money will be used to transition the department to Microsoft Office 365; replace desktop and laptop computers within the department; and acquire a variety of software licenses and services, including VideoLink software which enables remote appearances from jails and other facilities.

*Application development – \$1.8 million.* This money will be used to support the department's case management system and e-filing programs with ongoing software licensing; build a data warehouse solution to increase the department's ability to generate reports from multiple data sources; and replace the current technology that is being used to provide search functionality within the department's public and intranet websites.

*Executive services – \$1.7 million.* This money will be used to contract with outside vendors for the provision of staff support and consulting services on a variety of projects. The department plans to fill several roles, such as Chief Technology Officer, enterprise architect, and database administrator, on a contract basis while the department determines the long-term need for these to be permanent positions.

*IT security – \$1.2 million.* This money will be used to obtain IT security professional services, including the performance of an information security assessment, and to acquire a variety of IT security software and hardware, such as endpoint/malware protection software, identity management software, web filtering hardware, and anti-virus software. This also includes the development of an enterprise encryption system to properly secure personally identifiable and confidential information stored on the department's file shares.

***Justification.*** According to the department, the various projects and initiatives contemplated in this request will enable the department to provide the necessary support to courts and probation, ensure public safety across the state, and provide a high level of customer service to the citizens of Colorado. Justification for the individual components of the request are as follows:

*IT infrastructure.* The department conducted a statewide technology health assessment at all remote courthouse and probation locations. This assessment determined a need to replace end-of-life and end-of-support equipment across the state to prevent facility outages and the delay of essential services to the public.

*Technical services.* The department is requesting to transition its users from Microsoft Office 2010 to Microsoft Office 365 to address security vulnerability and to support the move of the department's email service to the cloud. Additionally, the department is currently on a four-year replacement cycle for laptops and desktops, which allows it to leverage updated technologies and security improvements and to help with operating system transitions. Finally, the department is requesting maintenance and support for VideoLink, which enables remote appearances from jails and other facilities, thereby saving counties from having to pay to transport individuals for these appearances.

*Application development.* A major component of this portion of the application development request is designed to build a data warehouse to improve reporting capabilities within the department, which will provide key decision makers within the department, the public, and other government agencies with the information they need. The data warehouse will be built to aggregate the department's large volume of complex data and address current reporting limitations related to the required manual manipulation of certain data, the inability to do certain trend analyses, and the time required to run certain reports.

*Executive services.* An independent IT assessment performed in June 2018 recommended the establishment of several key IT positions within the department's IT organizational structure. The additional staff is needed to help the department establish recommended IT governance and enterprise architecture structures and processes and to help modernize the department's enterprise case management, public access, data exchange systems, and infrastructure.

*IT security.* The department is requesting funding to enhance and implement a variety of data, hardware, and software security controls designed to protect access to, and storage of, personally identifiable information and confidential information.

*Cash funds.* The Judicial Department Information Technology Cash Fund, created in Section 13-32-114, C.R.S., is funded with fees and cost recoveries related to electronic filings, network access and searches of court databases, electronic searches of court records, and any other IT services. The cash fund is subject to annual appropriation by the General Assembly to the Judicial Department for any expenses related to the department's IT needs.

The department has made the decision to increase spending from the cash fund on IT infrastructure needs to bring the fund into compliance with the statutory fund balance limit. In response to JBC staff concerns, the department has indicated that it believes the cash fund will be able to sustainably support the anticipated operations and maintenance costs.

*General Fund projects.* The request includes a total of \$2.7 million from the General Fund, which is to be used to support projects that will be primarily based in county courthouses, including:

- replacing phone, network, and wireless infrastructure at 13 district court locations;
- replacing and centralizing district court servers; and
- providing VideoLink maintenance and support.

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

**Appendix A  
Judicial Department Budget Request Details**

**IT Infrastructure: \$8,095,688**

<b>Item</b>	<b>Cost</b>
Statewide projects to:	\$1,622,865
<ul style="list-style-type: none"> <li>• replace and centralize 78 district servers across 26 locations;</li> <li>• replace end-of-life and end-of-support routers and switches at 74 facilities; and</li> <li>• replace end-of-life and end-of-support wireless access points at 22 facilities.</li> </ul>	
<b>Upgrade the phone, network, and wireless systems at 13 county court locations</b>	<b>\$2,046,115</b>
Baca County Combined Court	\$103,523
Broomfield County Combined Court	\$103,323
Cheyenne County Combined Court	\$103,523
Commerce City Probation	\$195,444
Denver District Court (Civil)	\$530,627
Jackson County Combined Court	\$84,096
Jefferson County Combined Court	\$203,621
Kiowa County Combined Court	\$103,523
Logan County Combined Court	\$195,744
Morgan County Combined Court	\$195,444
San Juan County Combined Court	\$45,128
Sedgwick County Combined Court	\$103,223
Teller County Combined Court	\$78,896
<b>Software &amp; Hardware</b>	<b>\$3,767,153</b>
CenturyLink telecommunication & network circuit costs	\$1,867,080
Annual network equipment maintenance & support	\$276,543
Server hardware maintenance	\$225,436
Microsoft datacenter software licensing	\$225,283
Application server software	\$187,395
Enterprise document management system software	\$183,650
Physical storage maintenance & support	\$154,600
IBM hardware licensing & support	\$139,392
Server backup software	\$97,675
IBM software licensing & support	\$96,736
Network equipment (spare routers, switches, UPS units, etc.)	\$83,000
Data replication & high availability software	\$80,000
Phone system software & hardware licensing, maintenance, & support	\$34,785
Learning management software	\$34,500

**Appendix A (Cont.)  
Judicial Department Budget Request Details**

**IT Infrastructure Software & Hardware (Cont.)**

<b>Item</b>	<b>Cost</b>
Virtual server software licensing & maintenance	\$25,116
Network monitoring software	\$25,000
Rocket Software support & maintenance	\$12,352
Wireless spectrum analysis toolkit	\$8,000
Desktop management software	\$7,890
FTP software	\$1,780
WordPerfect software (for document conversion)	\$940
<b>Professional Services</b>	<b>\$659,555</b>
Contract senior iSeries systems engineer to provide daily support of its mission critical iSeries (AS/400) servers	\$251,520
Statewide managed services network and phone support for the Department	\$222,135
Professional services needed to assist department IT staff with highly complex technical issues, such as storage management, advanced server and network design and support, load balancer support, and assistance with problem identification and resolution	\$91,400
IBM hardware and software support	\$77,000
Enterprise document management system support	\$17,500

*Source: Judicial Department.*

**Appendix A (Cont.)  
Judicial Department Budget Request Details**

**Technical Services: \$4,841,548**

<b>Item</b>	<b>Cost</b>
Chat support for internal customers & external customers (public, attorneys, etc.)	\$20,000
Replace desktop & laptop imaging system	\$150,000
Imaging services	\$82,000
<b>Software &amp; Hardware (Operations &amp; Maintenance)</b>	
Laptop/desktop replacements	\$1,815,000
Microsoft Office 365 & Windows 10	\$1,500,000
Courtroom audio recording & monitoring software & hardware	\$383,282
Desktop/laptop hardware maintenance	\$118,728
Public access terminal software solution for courts & probation	\$103,885
IT service management/ticketing system	\$87,864
Printer replacements & maintenance for courts & probation	\$56,870
IT asset management software solution	\$51,931
Annual maintenance for statewide PDF editing software solution	\$50,046
Print server management maintenance	\$41,227
Desktop backup software solution	\$33,015
Desktop/laptop specialized software (MS Project & Visio) licensing	\$19,229
Mobile device management software	\$11,229
<b>Professional Services</b>	
IT service management/ticketing system consulting services	\$17,243
<b>VideoLink</b>	
Polycom video conference maintenance	\$150,000
Dedicated technician to support video conferencing equipment in all equipped courtrooms	\$150,000

*Source: Judicial Department.*

**Appendix A (Cont.)  
Judicial Department Budget Request Details**

**Application Development: \$1,778,023**

<b>Item</b>	<b>Cost</b>
Build a data warehouse solution	\$691,500
Website search functionality	\$50,000
Software licensing, including:	
<ul style="list-style-type: none"> <li>• Rocket Software, which the department's legacy case management system (ICON/Eclipse) is built upon;</li> <li>• electronic document software that supports the department's e-filing program, such as tools which convert documents to PDF to allow courts and probation to scan and upload documents into the case management system;</li> <li>• the department's business intelligence software, which provides reporting capability for the department to respond to data requests from the public, legislation, and internal customers;</li> <li>• development tools that are necessary for the department's application development teams to build and support our internal case management and e-filing applications; and</li> <li>• professional services that provide development and support services for the department's case management system and business intelligence program.</li> </ul>	\$1,036,523

*Source: Judicial Department.*

**Appendix A (Cont.)  
Judicial Department Budget Request Details**

**Executive Services: \$1,686,400**

Project/Task	Position/Consultant Role	Total FY 20 Hours	Hourly Rate	Total
Assist the department CIO by overseeing all critical enterprise system design decisions and changes in architecture, to include a Cloud strategy.	Chief Technology Officer	1,248	\$175.00	\$218,400
Responsible for helping design and modernize the department's case management system, public access, and data exchange systems with external state and local agencies.	Enterprise Architect	1,248	\$165.00	\$205,920
Responsible for helping the department assess the overall health of its databases and ensure optimization of its systems and applications.	Database Administrator	832	\$120.00	\$99,840
Responsible for all architecture and design decisions, advanced system administration tasks, and ensuring the department's systems are up 24/7.	Lead iSeries System Architect	2,080	\$127.00	\$264,160
Responsible for helping the department establish an enterprise level Quality Assurance Program.	Quality Assurance Engineer	1,248	\$133.00	\$165,984
Responsible for helping the department migrate from its legacy programming language to a sustainable and supportable programming language.	2 Senior RPG Software Engineers	4,160	\$140.00	\$582,400
Management consulting services for the implementation of COBIT 5, which is a nationally leading business framework for the governance and management of enterprise IT.	Senior Management Consultant	832	\$180.00	\$149,760

*Source: Judicial Department.*

**Appendix A (Cont.)  
Judicial Department Budget Request Details**

**IT Security: \$1,248,383**

<b>Security Software &amp; Hardware</b>		<b>Cost</b>		
Encryption software for file servers			\$320,000	
Endpoint/malware protection software			\$184,403	
Identity management software			\$145,800	
Web filtering hardware			\$120,000	
Implement basic TrustSec and 802.1x Phase 1 (SCAO, COA, & One Judicial District)			\$100,000	
Anti-virus software			\$73,000	
Information security training software			\$70,000	
Managed Engine AD audit software			\$36,000	
Secure website certificates			\$29,000	
Security Information and Event Management System (SIEM) software			\$20,000	
Email encryption software			\$10,000	
Firewall & intrusion detection/prevention hardware			\$9,500	
Vulnerability and penetration testing software			\$3,600	
<b>Security Professional Services</b>		<b>Hours</b>	<b>Hourly Rate</b>	<b>Total</b>
Information security professional services (for software & hardware)		160	\$165	\$26,400
Identity management professional services		120	\$170	\$20,400
<b>Information security assessment</b>				
Information Security Assessor/Penetration Tester		40	\$147	\$5,880
Senior Security Analyst		180	\$120	\$21,600
Senior Security Engineer		220	\$130	\$28,600
Information Security Analyst		220	\$110	\$24,200

*Source: Judicial Department.*