



**NEW MEXICO
HIGHER EDUCATION
DEPARTMENT**

**Fiscal Year 2024
Higher Education Department
IT Strategic Plan**

September 1, 2022

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Chief Information Officer

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EXECUTIVE SUMMARY

The New Mexico Higher Education Department (HED) seeks to promote accessibility to education for all New Mexicans. The Information Technology Services Division (ITS) is key to this mission by being part of every aspect of HED operations, from obtaining and configuring agency smartphones to managing the physical door access system to deploying and administrating desktop, laptop, and tablet computers to providing cloud-based services, public websites and web-based applications.

The ITS work that most visibly and effectively engages the higher education institutions, the legislature and the public and, so, receives much of our attention is our web-based services. This includes (a) regular updates and new features, (b) ensuring easy-to-use and secure websites, (c) offering archived school transcripts for students, (d) providing portals for uploading Capital Projects and Institutional Finance reports, and (e) facilitating and organizing legislative bill analysis. ITS also helps facilitate the workflow of other HED divisions, enhancing their efficiency, and expanding the impact of the agency. As such, the ITS work and goals are in alignment with the Higher Education Department's and the State's IT strategic goals. Specifically:

ITS is continuing to improve overall security and functionality by utilizing Zero Trust Architecture across all systems and services and by working to implement hardware-level multi-factor authentication. Furthermore, in the spirit of continuous integration and continuous delivery, we are adding features and improving performance of all existing applications and deploying new ones, including the COVID Response Data Collection system and Health Loan-For-Service application. ITS also successfully migrated all core infrastructure services, including shared file, Activate Directory and firewall services to the public cloud, thereby reducing maintenance cost, increasing performance and accessibility, and greatly improving security.

Regarding inter-agency activity, ITS continues to work with the CIOs of all the New Mexico Higher Education Institutions (HEIs) on cybersecurity, especially on ransomware prevention and mitigation. To this end, we helped secure \$1.7M of legislative funding in 2022. We are also a partner on the multi-million-dollar GEER Broadband Pilot, working in concert with University of New Mexico, the Public Education Department (PED), and the Early Childhood Education and Care Department (ECECD) to bring broadband connectivity to the Grants, NM region, including the Navajo Nation community. Finally, we remain a key stakeholder on the \$10M New Mexico Longitudinal Data System project (NMLDS), which is a collaboration between HED, ECECD, PED, and the Department of Workforce Solutions (DWS); ITS participates on the Project Team, secures and oversees state and federal funding, execute and manages vendor contracts, and provides project management and IV&V services. NMLDS, a certified project, transitioned to the Implementation Phase in spring of 2022 and is now on target to have the system operational by June, 2023. Much of ITS resources continue to be dedicated to this effort.

Agency leadership continues to make it a priority to better engage and support the State's students and teachers and more widely share the extensive information HED has collected and which ITS manages and protects. FY24 will, therefore, see ITS expand and harden our cloud-based Business Continuity and Disaster Recovery solution and further and more efficiently integrate our cloud-based services, primarily Microsoft 365 and Azure Active Directory.

AGENCY OVERVIEW

A. AGENCY MISSION

The New Mexico Higher Education Department provides financial, academic, and policy oversight to the NM public higher education institutions for the purpose of promoting efficiency, accountability and student success.

B. AGENCY GOALS

HED fosters and guides a system of higher education that best meets the needs of the citizens of the state by providing financing to and oversight of all of the state's public universities and colleges. The agency also has regulatory authority over private for-profit institutions operating within the state.

C. VISION AND PRIORITIES

HED strives to position public New Mexico colleges and universities to be more student-focused, delivering personalization that engages students and ensures their needs are seen, addressed and exceeded. Equity, therefore, is the highest priority. HED in concert with the state colleges and universities is striving to open up paths to experiences, opportunities and careers to all students, especially from marginalized communities, and help students define their goals and careers on their own terms.

ITS's mission is to facilitate the workflow of all HED divisions and enhance the overall efficiency of the agency in support of this vision and priority.

D. AGENCY DESCRIPTION AND ORGANIZATION STRUCTURE

HED has a staff size of 40, 9 vacancies and offices in Santa Fe and Albuquerque. The agency is comprised of seven main divisions that sponsor various education-related programs.

These are as follows:

1. The [Adult Education Division](#) serves adults to become literate and obtain the knowledge and skills necessary for employment and self-sufficiency.
2. The [Financial Aid Division](#) is dedicated to helping students in pursuing their educational goals by educating students, parents and the community about state aid opportunities.
3. [GEAR UP](#)'s mission is to increase the number of underrepresented students who are prepared to enter and succeed in Postsecondary education.
4. The [Institutional Finance Division](#) is responsible for the fiscal oversight of 32 colleges, universities and special schools.

5. The [Academic Affairs and Policy Division](#) is involved with a number of activities, including monitoring the transfer and articulation operation and the associated General Education Core Course listings.
6. The [Private Postsecondary Schools Division](#) (PPSD) issues licenses or letters of exemptions to private postsecondary Institutions allowing these institutions to legally operate in the state.
7. The [Research and Planning Division](#) provides quality assurance, reporting and planning support to the higher education community through collaborative data collection, analysis and reporting.

The [Information Technology Services Division](#) supports the efforts of the above and facilitates and transforms the business processes of the agency and provide the highest possible value to all internal and external stakeholders.

For the organization chart and division-level staffing information, go to [Appendix A-I](#). For the IT Division organization chart, see [Appendix A-II](#).

I. IT ENVIRONMENT

1. Major Applications

Our primary applications deal with supporting NM higher education institutions directly and indirectly by (a) providing financial aid to students, teachers and graduates, (b) funding projects, (c) overseeing projects and finances, (d) managing course and program changes and standards, (e) collecting enrollment and graduation information, and (f) providing transcripts. All of these work with sensitive information. Therefore, along with functionality, cybersecurity is the highest priority. Secondary priorities are intuitive, easy-to-use interfaces and strong customer support.

For a list of and details about HED applications, go to [Appendix A-IV](#).

2. Infrastructure

All physical HED network and server systems are located at the 2044 Galisteo Street HED Office complex and are comprised of HP x64 servers, an HP SAS storage system, Juniper network switches, a Palo Alto firewall, and Ubiquiti wireless access points. Our primary infrastructure is cloud-based, including primary Active Directory domain controller, primary Palo Alto firewall. It also includes application containers and SQL Server database servers.

For a summary of our on-premises and public cloud systems, go to [Appendix A-V](#).

3. Security

Security remains a high priority and takes approximately 25% of our time. It is built into every IT aspect, from application development to VPN upgrades. As such, it is a mandatory consideration when any change, purchase or request is made, and it is and has been a key driver of our move to cloud-based services. This includes redundant back-ups, deployment of Zero Trust Architecture, and required use of multi-factor authentication on applications and services.

Other aspects of our security include tiered Active Directory permissions, robust VPN and VPC services, and multi-level end-user protection, including local anti-malware and firewall services.

4. Agency IT Certified Projects

HED has one certified IT Project, the NM Longitudinal Data System (NMLDS) and one project exempted from certification by DoIT, the Shared Services Enterprise Resource Planning (ERP). Here are the details:

<u>NM Longitudinal Data System (NMLDS)</u>	
Project Description	In partnership with DWS, ECECD and PED, implement a central data and reporting system containing all student and workforce information to track students’ progress accurately through the education and workforce systems.
Estimated Project Cost	\$9.6M (FY21 – FY24)
Current Funding	\$7.5M (FY21 – FY23)
Certified Project Phase	Implementation
Estimated Completion	June, 2024
Strategic Priority	To identify what programs, services, interventions, education practices, and other factors have an impact on student success and thereby help improve New Mexico’s high school graduation rate, college enrollment and completion rates, workforce preparedness and retention, employment rate, career longevity, and ultimately broader social indicators such as poverty and health outcomes.

TABLE IV.1: Current Certified IT Projects

Shared Services Enterprise Resource Planning (ERP)	
Project Description	To allow participating NM colleges to remain independent, while providing students access to curriculums previously unavailable in their geographic area.
Estimated Project Cost	\$29.7M (FY22 – FY24)
Current Funding	\$9.2M
Project Phase	Planning
Estimated Completion	June, 2024
Strategic Priority	To promote accessibility to education for all New Mexicans (agency goal) and to standardize higher education’s ERP and data management and sharing processes (IT goal).
GEER II Broadband Pilot	
Project Description	To implement a more cohesive, equitable, and effective broadband system in pilot geographic areas for students and educators.
Estimated Project Cost	\$2.5M (FY22 – FY23)
Current Funding	\$2.5M
Project Phase	Implementation
Estimated Completion	June, 2023
Strategic Priority	To provide high-quality, high-capacity, reliable, secure, and cost-effective broadband and connectivity for New Mexico schools, students, education, staff, early childhood facilities and providers, and families.

TABLE IV.2: Current Certification-Exempt IT Projects

5. Workforce

A. Full Time Employees

ITS has six authorized IT full time employees (FTE) of which currently three are filled and three are vacant. We have strong demand for additional IT Business Analysts and Database Administrators. We have, thus, secured funding to hire one FTE of each in the next three months and hire the remaining IT Business Analysts as contractors via professional services. All ITS staff work a 90/10 hybrid schedule where they are in the office 90% of the time and telework the remaining 10%.

B. IT Professional Services Contractors

We currently have three contractors, all of whom are supporting IT projects. Two are project managers and one is an Independent Verification and Validation specialist (IV&V).

6. Challenges

ITS has one major challenge: migrate our traditional, standalone Active Directory and Shared File services to Azure Active Directory and integrate them with our Microsoft 365 services. Specifically:

<u>Challenge</u>	<u>Details</u>	<u>Mitigation</u>
Integrating Microsoft Cloud Services	All HED staff utilize Microsoft 365 applications and services. However, our Active Directory is a traditional, standalone service as is our Shared File service.	<ul style="list-style-type: none"> • Move our Active Directory and Shared File services to Azure Active Directory (AAD), preferably through our State partner, DoIT. • Integrate our Microsoft 365 services with AAD.

FY22 KEY ACCOMPLISHMENTS

FY22 was a busy year for ITS. We developed and deployed three new applications, deployed a new website, upgraded our existing website framework, migrated our Shared File server to the cloud, implemented multi-factor authentication (MFA) on all 365 accounts, implemented Zero Trust Architecture across server, desktop and network environments, migrated primary Active Directory Domain Controller to the cloud, migrated primary firewall to the cloud, moved all data back-up services to the cloud, promoted the NMLDS project through Planning to Implementation Phase, implemented the GEER II Broadband Pilot project, and continued close collaboration with State and higher education partners across several projects and security initiatives.

A. FY22 STRATEGIC IT ACCOMPLISHMENTS

STRATEGIC PRIORITY – Better leverage and share institutional and student information	
STRATEGY STATEMENT – Further expand capabilities to foster collaboration and knowledge management	
FY22 Strategy 1	Make inter-agency data sharing standard and transparent by way of secure, on-demand access technology

Accomplishments	Planned and currently implementing the NM Longitudinal Data System (NMLDS)
Outcomes/Metrics	The NMLDS project is in the Implementation Phase and on schedule to have a working prototype by Dec'22.
FY22 Strategy 2	Further engage DWS, ECECD, PED, DoIT, and other institutions to share and better utilize key constituent data
Accomplishments	Working with all four agencies to configure the Google Cloud Platform (GCP) for data collection and analysis.
Outcomes/Metrics	<ol style="list-style-type: none"> 1. Activation of the GCP sub-tenant rise.nm.gov 2. Execution of several data sharing agreements, and the 3. Creation and deployment of the https://rise.nm.gov website
FY22 Strategy 3	Continue migrating on-premises databases and services to highly-secure, cloud-based data repositories
Accomplishments	On-premises databases migrated to the cloud, the Shared File, AD and VPN services moved to the cloud, and database back-ups established in the cloud.
Outcomes/Metrics	<ol style="list-style-type: none"> 1. All HED databases located and fully operational in the cloud 2. The Shared File, AD and VPN running in cloud environment 3. Tested redundant database back-ups secured in the cloud

TABLE III.1: FY22 Strategic IT Accomplishments

B. OTHER KEY IT ACCOMPLISHMENTS – FY22

We hired a new database administrator, developed and deployed new applications and a new website, migrated our Shared File server to the cloud, implemented MFA on all 365 accounts, implemented Zero Trust Architecture across server, desktop and network environments, migrated primary Active Directory Domain Controller to the cloud, migrated primary firewall to the cloud, moved all data back-up services to the cloud, and streamlined our application development process.

APPLICATION	
Accomplishments	Developed and deployed the COVID Response Data Collection system, Health Loan-For-Service application, and the Course Request & Update application.
Value or Impact	Increased student health, staff health and customer satisfaction and reduced information submission time and human error by (a) converting a paper-based process to a web-based one, (b) enabling real-time campus COVID case submissions and notifications, and (c)

	providing an intuitive, easy-to-use course request/change service for college administrators.
DATA	
Accomplishments	Enabled all HED data back-up services on the cloud and migrated our Shared File server to the cloud.
Value or Impact	Using Veeam as well as off-line archiving on our public cloud platform, we have an in-depth back-up architecture for all HED data, including our ~1TB of Share Drive files and folders.
PROCESS IMPROVEMENT	
Accomplishment	Established and streamlined application development process
Value or Impact	We have selected and began consistently using the Scrum development process. This has enabled us to better engaged with our customers and be more responsive to both new development requests as well updates to existing applications.
WORKFORCE	
Accomplishments	Hired new Database Administrator.
Value or Impact	This was a crucial milestone, enabling us to progress on the NMLDS project and achieve the aforementioned Data accomplishments.
CUSTOMER SERVICE	
Accomplishments	Created and published NMLDS website, https://rise.nm.gov , and enabled Comodo One Help Desk applications.
Value or Impact	Engaged the public on out in-progress NMLDS project, providing feedback and request for information web forms. Also, made it quicker and more convenient for our staff to open Help desk tickets via a Windows and Mac desktop icon.
TELEWORK	
Accomplishments	Migrated primary Active Directory Domain Controller to the cloud, migrated primary firewall to the cloud.
Value or Impact	Enabled staff to have transparent, simple and secure access to all HED data and services, regardless of being in the office, home or on the road.
SECURITY	
Accomplishments	Implemented multi-factor authentication (MFA) on all agency Microsoft 365 accounts, implemented Zero Trust Architecture across server, desktop and network environments, and enabled VPN by default operations on all staff workstations and laptops.
Value or Impact	These achievements have substantially increased our cybersecurity across all HED IT areas (network, desktop, cloud, server, data, and email).

TABLE III.2: Other Key IT Accomplishments – FY22

III. FY24 IT STRATEGIC GOALS AND APPROACHES

Being a small division, ITS must be more proactive and efficient and to continue achieving more and higher-quality results. Our three FY24 strategic goals have that in common.

STRATEGIC PRIORITY – Become more responsive, adaptive and efficient by embracing an Agile mindset.	
GOAL STATEMENT – Being a very small organization, applying an agile mindset (a thought process that involves understanding, collaborating, learning, and staying flexible) enables our team, staff and contractors, to achieve high-performing results. Combined with our processes and tools, the IT team can adapt to change and deliver continuous value to their customers.	
FY24 Strategy 1	Continuously explore new ways to improve services and security for staff and public and simplify IT support
Outcomes/Metrics	<ol style="list-style-type: none"> 1. Develop and rollout 2-3 new applications. 2. Upgrade/expand 3-4 existing applications. 3. Consolidate all HED Microsoft services under one account.
FY24 Strategy 2	Implement automated reporting and continual review of staff VPN connectivity and malware detection
Outcomes/Metrics	<ol style="list-style-type: none"> 1. Daily activity log reports sent to key ITS staff. 2. Automated, real-time notification of potential or actual security events and/or issues (SMS and/or email). 3. Early detection and notification of potential server, database and network bandwidth resource issues, e.g., disk1 95% full.
FY24 Strategy 3	Frequently review performance of cloud-based services and explore proactive improvements
Outcomes/Metrics	<ol style="list-style-type: none"> 1. Monthly reports on resources used, including I/O, CPU usage, amount of new data saved, amount of data accessed, list of accounts and services that accessed data. 2. Quarterly reviews of services and vendor and staff recommendations on performance, security or other improvements.

TABLE IV.1. FY24 IT Strategic Goals and Strategies

IV. IT FISCAL AND BUDGET MANAGEMENT

A. Information Technology (IT) Operating Budget (C1)

Information Technology Base Operating Budget Informational Purposes Only					
Agency Name:	NM Higher Education Department			Agency Code:	950
Appropriation Funding Type:	Base Request Operational Support of IT. Check one of the options below: Flat Budget <input type="checkbox"/> or Expansion from previous year <input checked="" type="checkbox"/>				
Revenue IT Base Budget (dollars in thousands)					
	FY21 Actual	FY22 Actual	FY23 OpBud	FY24 Request	FY25 Estimate
General Fund	1,410	1,771	2,314	2,400	2,490
Other State Funds	25	20	42	60	50
ISF/IAT	0	0	0	0	0
Federal Funds	20	40	150	200	125
Total	1,455	1,831	2,506	2,660	2,665
Expenditure Categories (dollars in thousands)					
Category or Account Description	FY21 Actual	FY22 Actual	FY23 OpBud	FY24 Request	FY25 Estimate
Personal Services & Employee Benefits	675	689	1,195	1,215	1,243
Contractual & Professional Services	72	125	110	135	150
IT Other Services	29	77	75	83	86
Other Financing Uses	0	0	0	0	0
Total	776	891	1,380	1,436	1,479
	Agency Cabinet Secretary/ Director (mandatory)	CIO or IT Lead (mandatory)	Chief Financial Officer (mandatory)		
Name	Stephanie Rodriguez	Bogi Malecki	Mario Suazo		
Signature					
Phone	505-476-8400	505-476-8432	505-476-8400		
Email address	stephanie.m.rodriguez@state.nm.us	Bogi.Malecki@state.nm.us	mario.suazo@state.nm.us		

TABLE V.1: IT Operating Budget

V. SPECIAL FUNDING, SUPPLEMENTAL, COMPUTER SYSTEM ENHANCEMENT (C2) FUNDING AND REAUTHORIZATION OF C2 APPROPRIATIONS

A. HED will be making two special funding requests, one for approximately \$5M in statewide Higher Education cybersecurity upgrades and \$3.68M for University of New Mexico Information Technology upgrades.

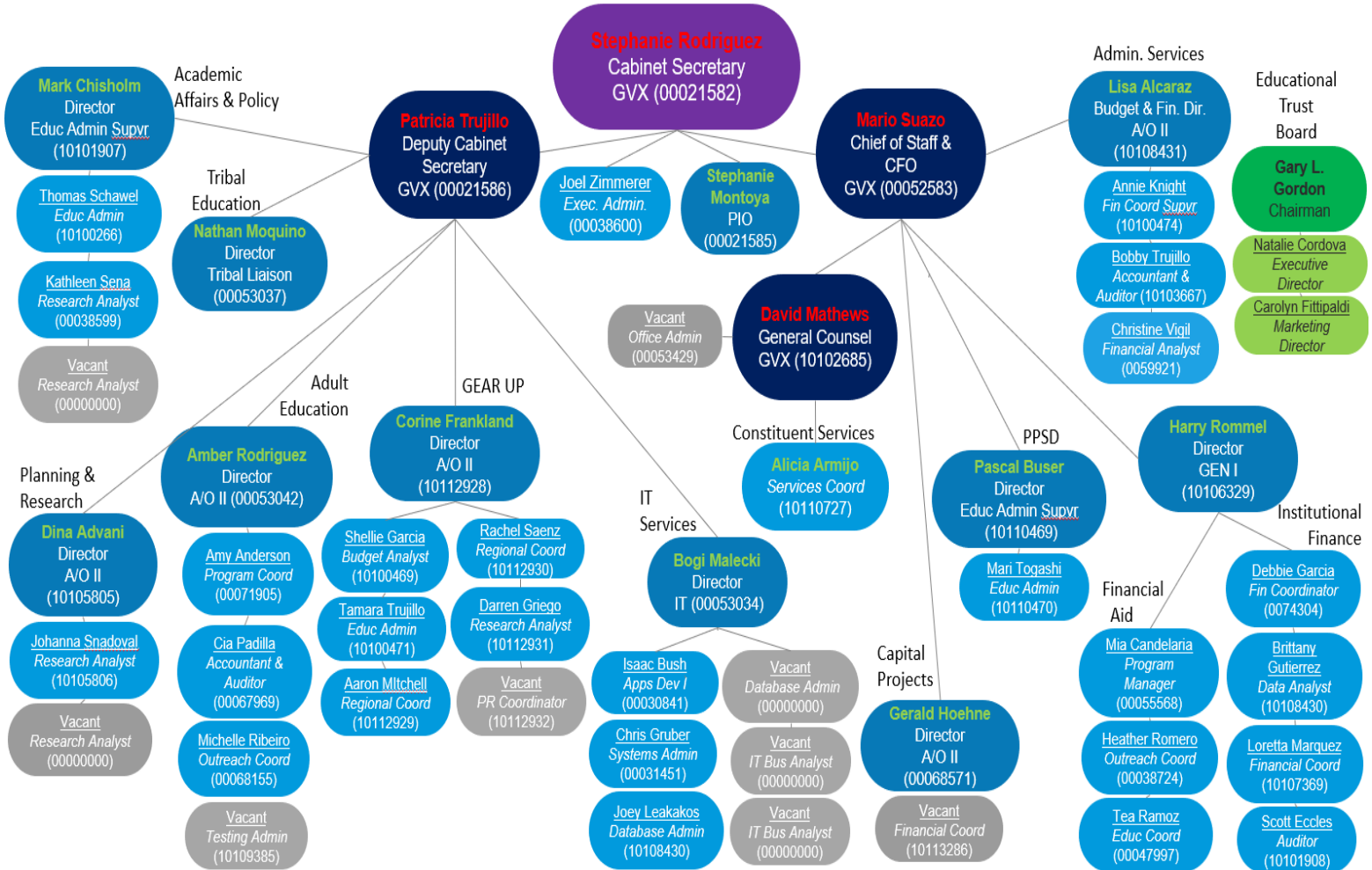
B. We will be submitting these two C2 funding requests:

- \$5.5M for the [New Mexico Longitudinal Data System \(NMLDS\) project](#)
- \$15.1M for the [Shared Services Enterprise Resource Planning project](#)

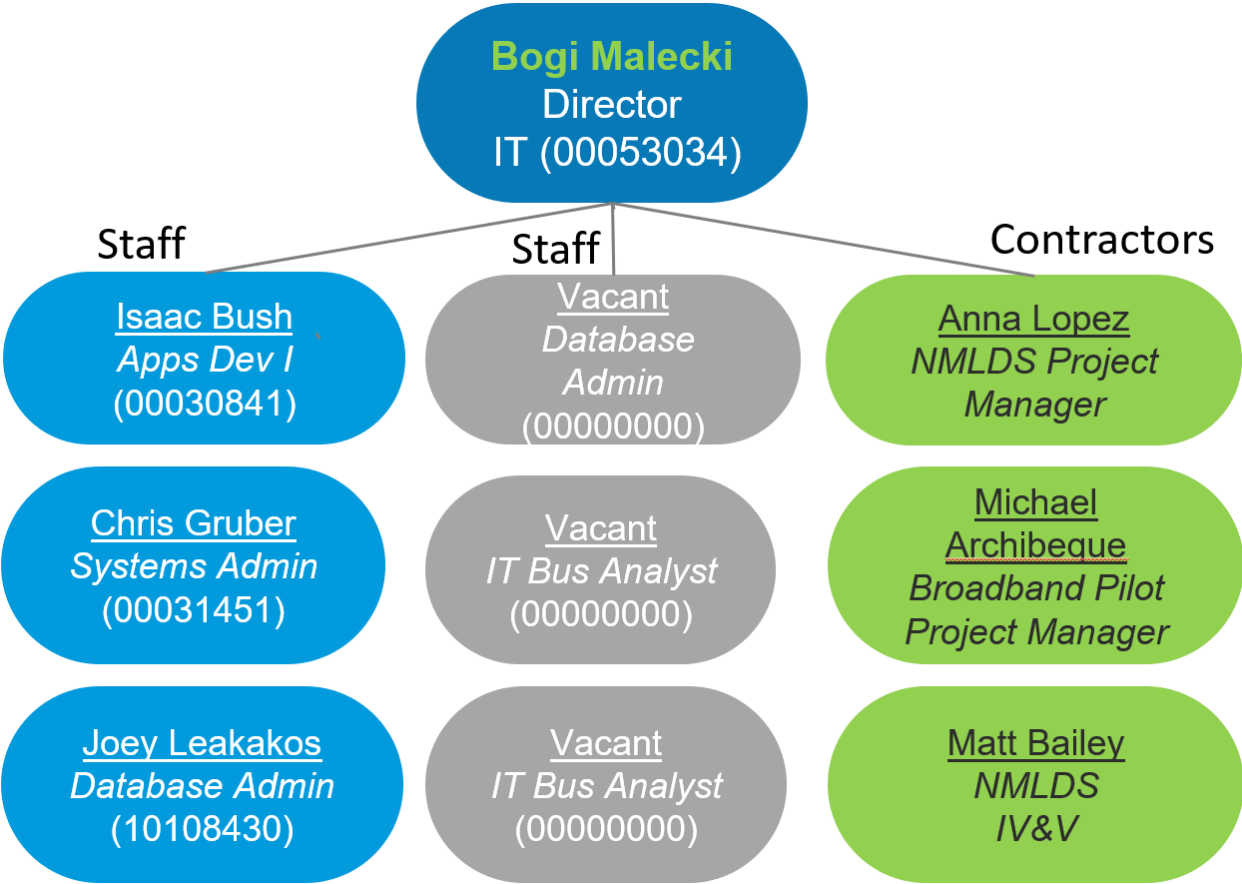
Go to [Appendix-A-III](#) for the corresponding C2 Information Technology Data Processing – Computer Enhancement Fund (CSEF) forms.

C. The agency is not requesting reauthorization of prior C2 appropriations.

APPENDIX A-I: AGENCY ORGANIZATION CHART



APPENDIX A-II: IT ORGANIZATION CHART



APPENDIX A-III: C2 IT DATA PROCESSING CSEF

C2: Information Technology Data Processing - Computer Systems Enhancement Fund (CSEF)

Agency Name	Agency Code	Project Name			
Higher Education Department	950	New Mexico Longitudinal Data System			
Multi-Agency Project	Participating Agencies		Priority	Projected Start Date	Projected End Date
Yes: ECECD, PED, HED, DVR, DWS			1	8/31/2020	6/30/2024
Revenue Project Cost (dollars in thousands)					
Category or Account Description	FY22 & Prev Actual	FY23 Budget	FY24 Request	FY25 Estimate	Total
General Fund (CSEF)	3,754.0	805.0	5,500.0	0.0	10,059.0
Other State Funds (*specify funds below)	201.0	0.0	0.0	0.0	201.0
Federal Funds	3,500.0	0.0	0.0	0.0	3,500.0
Internal Svc Funds/Interagency Transfer	0.0	0.0	0.0	0.0	0.0
Total	7,455.0	805.0	5,500.0	0.0	13,760.0
*If Other State Funds, Specify Funding Source/Fund Name	*Public Education Reform Fund.				
Expenditure Categories (dollars in thousands)					
	FY22 & Prev Actual	FY23 Budget	FY24 Request	FY25 Estimate	Total
Personal Services & Employee Benefits	0.0	0.0	0.0	0.0	0.0
Professional Services	702.0	5,784.0	1,116.0	0.0	7,602.0
Travel/Lodging	0.0	0.0	0.0	0.0	0.0
IT Hardware	0.0	0.0	0.0	0.0	0.0
IT Software	113.0	584.0	1,574.0	0.0	2,271.0
Other	0.0	0.0	0.0	0.0	0.0
Total	815.0	6,368.0	2,690.0	0.0	9,873.0
	Signature		Date		
Cabinet Secretary/Director	Stephanie Rodriguez				
Chief Information Officer/Technology Lead	Bogi Malecki				
Budget Director	Mario Suazo				

Agency Name	Agency Code	Project Name		
Higher Education Department (HED)	95010	Shared Services Enterprise Planning (ERP)		
Multi-Agency Project	Participating Agencies	Priority	Projected Start Date	Projected End Date
Yes	HED, CCC, CNM, NNMC, SJC, SFCC, MCC	2	1/1/2022	5/30/2025

Revenue Project Cost (dollars in thousands)					
Category or Account Description	FY22 & Prev Actual	FY23 Budget	FY24 Request	FY25 Estimate	Total
General Fund (CSEF)	3,125.0	6,000.0	15,100.0	5,000.0	29,225.0
Other State Funds (*specify funds below)					0.0
Federal Funds		0.0	0.0	0.0	0.0
Internal Svc Funds/Interagency Transfer	0.0	0.0	0.0	0.0	0.0
Total	3,125.0	6,000.0	15,100.0	5,000.0	29,225.0
*If Other State Funds, Specify Funding Source/Fund Name	Institutional Fund Balance, CARES Act Funding, Bonding				

Expenditure Categories (dollars in thousands)					
	FY22 & Prev Actual	FY23 Budget	FY24 Request	FY25 Estimate	Total
Personal Services & Employee Benefits	1,638.0	2,500.0	4,500.0	0.0	8,638.0
Professional Services	1,487.0	3,500.0	10,600.0	5,000.0	20,587.0
Travel/Lodging	0.0	0.0	0.0	0.0	0.0
IT Hardware	0.0	0.0	0.0	0.0	0.0
IT Software	0.0	0.0			0.0
Other	0.0	0.0	0.0	0.0	0.0
Total	3,125.0	6,000.0	15,100.0	5,000.0	29,225.0

	Signature	Date
Cabinet Secretary/Director		
Chief Information Officer/Technology Lead		
Budget Director		

APPENDIX A-III: C2 IT Data Processing CSEF

APPENDIX A-IV: Major Software Applications

Name	Function
BAS	Function: Legislative bill analysis system Owner: <i>Planning & Research</i> URL: https://bas.nmhed.us << Off-line until Dec'22 for complete rebuild >>
HEI Budgets	Function: Institutional Budget submission application Owner: <i>Institutional Finance</i> URL: https://budget.nmhed.us
CPTSS	Function: Capital Projects Report Submittal System Owner: <i>Capital Projects</i> URL: https://cptss.nmhed.us
Course Request & Update	Function: Request new and or update existing courses and numbering Owner: <i>Academic Affairs & Policy</i> URL: https://academicaffairs.nmhed.us
Financial Aid Portal	Function: Single-Sign-On access to Financial Aid applications, including CYFD Loan Program, HPLRP Program, and HLFS Program. Owner: <i>Financial Aid</i> URL: https://finaid-applications-portal.nmhed.us/
eDEAR	Function: On-line data reporting system for all public postsecondary institutions in New Mexico Owner: <i>Planning & Research</i> URL: https://edear.nmhed.us
CCNS	Function: Common Course Numbering System, a.k.a. Course crosswalk Owner: <i>Academic Affairs & Policy</i> URL: https://ccns.nmhed.us/
COVID Response	Function: Rapid reporting and notification of positive COVID-19 test results student & faculty Owner: <i>Executive Office</i> URL: https://covidresponse.nmhed.us
Transcripts	Function: Manage 80,000+ student credentials for closed schools Owner: <i>Constituent Services</i> URL: https://transcripts.nmhed.us

APPENDIX A-V: On-Premises and Public Cloud Systems

On-Premises Systems

Systems	Operations	Servers and/or Services
HPE server and HPE SAS storage	VMware vSphere running virtual server instances	<ul style="list-style-type: none"> • Active Directory server • Print Server
HPE server	Active Directory back-up	Secondary AD Domain Controller
Juniper switches, Palo Alto firewall and Ubiquiti WPAs	Network communications and security	<ul style="list-style-type: none"> • VPN • DMZ • Zero-trust subnets • External IP traffic • Wireless access

AWS (Public Cloud) Systems

Systems	Count	Operations
Load balancer	1	To distribute network and application traffic among virtual systems
Virtual Private Cloud (VPC)	6	To segregate operations for ease of resource management and increased security
RDS instance	6	For relational databases, including SQL Server
EC2 instance	7	Running Linux and Windows servers for applications, Active Directory and File Share services
S3 bucket	58	For raw data storage

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