

2022 - 2024 IT Strategic Plan

Agency: 402 Marine Resources Commission

Date: 8/12/2022

Current IT State

In this section, describe the high-level strategy the agency will use to manage existing operational IT investments over the next year to 5 years. This section should align with identified Business Requirements for Existing Technology (BReTs). At minimum, please address the following questions in your description of your agency's strategy for managing existing operational IT investments:

Are there existing IT investments that will require additional funding over the next year to 5 years, such as license renewals, re-competition of current IT contracts, or system enhancements required by the Agency Strategic Plan?

If there are systems that will no longer support the agency's business needs, either through poor performance or excessive cost, how does IT leadership in the agency plan to address the issues?

If the agency does not have the staff or funding to meet increasing demand for IT services, how will IT leadership fulfill the requests?

The Commission has a long history of the utilization of custom computer applications to help manage its diverse businesses with limited resources. Beginning in 2006, the agency migrated to web based applications, and has developed an extensive portfolio of applications over the last fifteen years. In 2020, the Commission staff was able to replace its critical web application server that hosts most agency systems, but that process, particularly during this period of COVID-19 operations, made it obvious that the Commission requires an added staff person to backup and supplement the agency's primary developer. The agency's operations are almost completely dependent on custom business systems, and during our server replacement project, it became very evident that if for any reason our primary developer was not available, agency operations would be severely impacted.

The agency's suite of custom applications supports, to some degree, all agency operations. This includes the selling and issuing of commercial fishing licenses, commercial harvest reporting, species quota management, the issuance of private oyster ground leases, processing habitat permit applications for piers, docks, marinas, channel dredging and any activity that encroaches on State-owned water bottoms of the Commonwealth. Additionally, two applications support law enforcement activities to include summons management and marine police officer's activities such as employee scheduling, issuing permits, reporting critical incidents and traffic stops, reporting menhaden inspections, and reporting Joint Enforcement Agreement activities with NOAA's Law Enforcement - just to name a few. We also have an extensive custom-built Geographic Information System (GIS) that displays oyster ground leases, fixed fishing devices, open shellfish harvest areas, oyster sanctuaries, habitat permit locations and blue crab sanctuaries. Extremely important to note, all these applications including the GIS system are seamlessly integrated allowing for the sharing of data across applications. The agency employs approximately 150 people and most employees use one or two of these applications on a daily basis. It is critical to the operation of the agency that these applications be maintained and fully supported. To do so, the agency is requesting one additional FTE. The agency plans to maintain the suite of applications for the foreseeable future by hiring two developers (one we are funded for and one we are requesting funding). These applications have been custom designed to meet the specific and diverse needs of the agency and would not be easily replaced with commercial alternatives.

In Fall 2019 and Fall 2020, the agency requested state funding to add support for its portfolio of custom web applications, public web site development, as well as related public outreach and communications via web content and social media development. The requests were not funded, but the need for additional support is still critical. The governor's proposed 2022 budget does fund this critically needed position. The agency plans to use this FTE as the primary backup and support our existing web application developer to provide critical redundancy for system development, security, maintenance, and support. The position could also provide additional staff time for much

needed public web site development tasks related to improved communications and outreach, development of features for mobile devices using code bases for native IOS and Android operating systems, as well as technical concerns like Section 508 accessibility compliance for existing and future web content.

Factors Impacting the Current IT

In this section, the agency will describe the changes in their business environment that will require or mandate changes to the agency's current IT investments. These are requirements and mandates from external sources, such as other agencies or business partners, the agency's customer base, product and service providers, or new federal or state legislation or regulations. The agency must identify the business value of the change, any important deadlines that must be met, and the consequences if the deadlines are not met. In your discussion, be sure to note whether the proposed enhancements are funded or not. If the agency's existing current IT investments will not need enhancement due to requirements or mandates from external sources in the foreseeable future, the agency should enter the following text rather than leave the Factors Impacting the Current IT section blank

For each mandated change, summarize your agency's response from your Agency Strategic Plan, and is it the opinion of agency IT leadership that the IT portion of the response is adequately funded?

Do the mandated changes effect IT in other Commonwealth agencies, or in other states? If so, how?

The most important factor impacting IT is our need for one additional FTE to provide critical redundancy for system development, security, maintenance, and general IT support. The IT program leader retired November 1st, 2021, and our one desktop support specialist plans retirement within two years (August 2, 2023). Hiring this one additional FTE will be critical to ensure continuity of our IT program and will allow for orderly staff transition over the next two years. Training new staff in our system environment can easily take one to two years to develop sufficient technical skills to be a full contributor to the program. This FTE is funded in the governor's proposed 2022 budget. It's imperative that this funding stays in the 2022 budget so we may accomplish initiatives outlined below. Expenses related to training new staff is not funded and is expected to cost \$20,000 annually.

The following external factors will dictate IT plans for the coming two years. Importantly, it will be difficult, if not impossible, to accomplish these initiatives without additional staffing requested in this plan.

COVID-19 Pandemic: The COVID-19 pandemic continues to drive operational changes at the VMRC. Over the past two years, we made significant strides offering more and more services online to the citizens we serve. These efforts have not only benefited the citizens, but allowed our staff to effectively work remotely as required by the pandemic. In 2020, we began processing habitat management permits online allowing citizens to pay online and receive their final permit via email, greatly reducing the need for in-person visits and document notarizations. In December 2021, we began selling commercial fishing registration licenses online. Commercial fishermen taking advantage of this service has resulted in decreased office visits for license purchases - greatly reducing the risk of virus transmission to our staff and constituents. In 2022 and 2023, these initiatives will only continue to expand as the pandemic continues to drive how we serve our citizens. Specifically, in 2022, we intend to sell the Seafood Landing Licenses online to streamline the documentation verification process required of this licensing process. We also plan to increase commercial online harvest reporting that is dictated by regulation and noted more thoroughly below. Lastly, the VMRC has been responsible for administering COVID-19 disaster relief programs in both 2020 and 2021 providing more than \$7 million in assistance to commercial fishery participants that were economically harmed by the pandemic. In 2022, the VMRC anticipates administering a third COVID-19 relief program to support Virginia seafood processors. These disaster relief programs require a significant amount of IT resources to develop and maintain both online and mail-in application systems.

4VAC20-610-10 ET SEQ: Over the next two years, the agency is committed to increasing commercial online harvest reporting in support of mandates specified in regulation 4VAC20-610-10 ET SEQ. Online harvest reporting expedites the collection of data and allows for more effective species quota management. This initiative directly supports our agency mission to maintain a sustainable fisheries for the benefit of all anglers and the ecosystem.

Clam and Oyster Aquaculture Work Group Report: The Secretary of Natural Resources' 2018 Clam and Oyster

Aquaculture Work Group Report recommended as one of eight action items that the agency accept applications for private oyster ground leases online. Automating this process will greatly enhance the citizen's experience for applying for leased grounds, reduce office visits by applicants, and will also reduce the need for staff to manually enter applications into our system.

Proposed IT Solutions

In this section, describe the high-level strategy the agency will use to initiate new IT investments over the next year to 5 years in support of the agency strategic objectives documented in your Agency Strategic Plan. The agency does not need to consider specific technologies at this time, however, the strategy should identify how the IT implementation will provide business value to the organization. This section should align with identified Business Requirements for New Technology (BRnTs). At minimum, please address the following questions in your description of your agency's strategy for initiating new IT investments:

What are the most important solutions, based on the priority assigned to the requirements by the business sponsors in your agency, and what is the approach to achieving these priority solutions?

If any new IT initiatives will be started in the upcoming budget biennium, is it the opinion of agency IT leadership that it is adequately funded?

Does the agency's current IT staff have the appropriate skill set needed to support future agency technologies? If not, what skill sets need to be acquired?

If the agency will be engaged in multiple new IT initiatives, how will agency IT staff and agency subject matter experts be used across the initiatives?

All agency IT activities are very financially modest out of necessity, and are always directly aligned with the agency mission, goals, and objectives. We believe our low cost approach to application development has critical business value primarily in operational efficiency and attainment of strategic goals of the Agency, but in doing so they also contribute to improving and maintaining constituent service levels in an era of increasing demands and limited personnel.

The below bullet points outline our proposed IT solutions for the next two years. The most important solutions will be to bring two new staff onboard in 2022 and provide them with the best possible training. Becoming adequately staff is the prerequisite for achieving the subsequent IT solutions.

With the possibility of hiring two new FTE in 2022, investing in training will be imperative. While hiring skilled and experienced employees is expected, specialized training specific to our environment will be necessary. IT training is expensive with single one-week training programs costing approximately \$5,000. Anticipated training expenses for 2022 and 2023 will be \$20,000 per year. Training new staff in our system environment can easily take one to two years to develop sufficient technical skills to be a full contributor to the program.

Accepting online applications for oyster ground leasing will be our biggest IT initiative in 2022. Our intention will be to couple this with the allowing applicants to pay application and rent fees online via credit card and electronic check. There are over 5,000 private oyster ground leases that we invoice and collect approximately \$200,000 annually in rent payments. Accepting lease applications online was one of eight action items outlined in the Secretary of Natural Resources' Clam and Oyster Aquaculture Work Group report, dated December 2018.

Establishing a second application server at the state data center or an alternate data center will be an important initiative to provide platform redundancy to the multiple custom computer applications the agency maintains. Additionally, utilizing a second application server will allow us to host sensitive systems on a separate server from non-sensitive systems. The target timeframe to establish a second server will be mid 2023. Anticipated cost for an additional server is expected to be \$24,000 annually.

In December 2021, the VMRC began selling Commercial Fisherman Registration licenses online. Fisheries Management is requesting additional licenses be sold online in 2022 to streamline a tedious manual review process of pre-requisite documentation for certain license types.

VMRC has developed and maintains a web application to allow commercial harvesters to report their harvest online. As of January 1, 2021, regulation 4VAC20-610-10 ET SEQ required all commercial harvest of oysters and cobia be reported via this web application. In 2022, it is anticipated that the commercial harvest of blue crab and striped bass will be required to be reported online. Online reporting enables much more timely quota monitoring and ultimately betters species management and conservation.

IT Strategic Plan Budget Tables

Agency:	402 Marine Resources Commission			
Date:	8/12/2022			
Current IT Services				
	Costs Year 1		Costs Year 2	
Category	GF	NGF	GF	NGF
Projected Service Fees	\$342,452.00	\$305,286.00	\$352,725.00	\$314,445.00
VITA Infrastructure Changes	\$24,000.00		\$24,000.00	
Estimated VITA Infrastructure	\$366,452.00	\$305,286.00	\$376,725.00	\$314,445.00
Specialized Infrastructure				
Agency IT Staff	\$120,000.00		\$120,000.00	
Non-agency IT Staff				
Cloud Computing Service				
Other Application Costs				
Total:	\$486,452.00	\$305,286.00	\$496,725.00	\$314,445.00
Proposed IT Investments				
	Costs Year 1		Costs Year 2	
Category	GF	NGF	GF	NGF
Major IT Projects:				
Non-Major IT Projects:				
Agency-Level IT Projects:				
Major Stand Alone IT Procurements:				
Non-Major Stand Alone IT Procurements:				
Agency-Level Stand Alone IT Procurements:		\$20,000.00		\$20,000.00
Procurement Adjustment for Staffing:				
Total:	\$0.00	\$20,000.00	\$0.00	\$20,000.00
Projected Total IT Budget				
	Costs Year 1		Costs Year 2	
Category	GF	NGF	GF	NGF
Current IT Services:	\$486,452.00	\$305,286.00	\$496,725.00	\$314,445.00
Proposed IT Investments:	\$0.00	\$20,000.00	\$0.00	\$20,000.00
Total:	\$486,452.00	\$325,286.00	\$496,725.00	\$334,445.00

Business Requirements For Technology

Agency:	402 Marine Resources Commission
Date:	8/12/2022
402 MRC BReT Cloud Readiness Assessment 2018 Mappi	
BRT Type:	Business Requirement for Existing Technology
Date Submitted:	3/26/2021
Mandate:	Yes
Mission Critical:	Yes
Description:	
<p>Governor Ralph Northam's "Executive Order 19: Cloud Service Utilization and Readiness" requires agencies to take specific actions starting this month and continuing through fall 2019.</p> <p>The order requires VITA to adopt a model for evaluating and incorporating cloud services into the commonwealth's information technology (IT) strategy and services. VITA has:</p> <ul style="list-style-type: none"> Started the process of creating a cloud services model Begun obtaining information about agency systems that can be migrated to a cloud environment Provided an overview of the process at the recent agency information technology resources (AITR) meeting Planned additional announcements to AITRs regarding remaining steps Included cloud-related services and migration to the new data center in the recently awarded infrastructure contracts <p>Additionally, VITA and all systems must move from the Commonwealth Enterprise Solutions Center (CESC) in Chester by December of 2021. One related strategy is to reduce the number of physical servicers at CESC to prepare for the move. This means migration to the cloud must be completed by that time. It is imperative to start planning now.</p> <p>Agencies' IT staff members have been asked to complete cloud assessments and should be using the results to identify resource requirements. VITA encourages agencies to evaluate their resources and discuss resource planning with the appropriate financial staff to ensure work can begin as required. Resource needs should be included requests in the upcoming budget cycle.</p> <p>To identify which existing solutions can be migrated to the cloud and ensure all new IT solutions proposed be cloud-enabled, VITA will issue a hosting standard in the coming weeks. This standard will define terminology and identify requirements agencies must consider when implementing cloud-based IT solutions.</p>	
402 MRC BReT Cloud Readiness Assessment File Serve	
BRT Type:	Business Requirement for Existing Technology
Date Submitted:	3/26/2021
Mandate:	Yes
Mission Critical:	Yes

Description:

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Provided an overview of the process at the recent agency information technology resources (AITR) meeting

Planned additional announcements to AITRs regarding remaining steps

Included cloud-related services and migration to the new data center in the recently awarded infrastructure contracts

Additionally, VITA and all systems must move from the Commonwealth Enterprise Solutions Center (CESC) in Chester by December of 2021. One related strategy is to reduce the number of physical servers at CESC to prepare for the move. This means migration to the cloud must be completed by that time. It is imperative to start planning now.

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Additional web application developer for MRC

BRT Type:	Business Requirement for Existing Technology
Date Submitted:	5/19/2021
Mandate:	Yes
Mission Critical:	Yes

Description:

The agency needs a minimum of one new FTE with a primary responsibility to backup and support our existing web application developer to provide critical redundancy for system development, security, maintenance, and support; the position could also provide additional staff time for much needed public web site development tasks related to improved communications and outreach, development of features for mobile devices using code bases for native IOS and Android operating systems, as well as technical concerns like Section 508 accessibility compliance for existing and future web content.

File Server

BRT Type:	Business Requirement for Existing Technology
Date Submitted:	3/31/2021
Mandate:	

Mission Critical:	
Description:	
Associated Project: CTP20316 - EO19_MRC_Aggregate_ReHost	
MRC Network Upgrade BReT	
BRT Type:	Business Requirement for Existing Technology
Date Submitted:	3/26/2021
Mandate:	
Mission Critical:	
Description:	
Network	

IT Strategic Plan Projects

Agency:	402 Marine Resources Commission (MRC)		
Date:	8/12/2022		
EO19_MRC_Aggregate_ReHost			
	Investment Business Case Approval		
Rehost Mapping/GIS application			
Project Start Date	1/1/2021	Project End Date	7/1/2021
Estimated Costs:	Total	General Fund	Non-General Fund
Project Cost	\$27,000.00		
Estimated first year of biennium:	\$0.00	\$0.00	\$0.00
Estimated second year of biennium:	\$0.00	\$0.00	\$0.00

Project Related Procurements

There are no procurements for this project

IT Strategic Plan Procurements

Agency:	402 Marine Resources Commission (MRC)
Date:	8/12/2022
Stand Alone Procurements:	
Procurement Name:	MRC Computer Aided Dispatch
Procurement Date	5/25/2023
Procurement Description:	<p>MRC is looking into purchasing some access licenses to an existing Computer Aided Dispatch System currently in use at the Department of Wildlife Resources (DWR).</p> <p>This application will be used to dispatch MRC officers in response to marine 911 calls.</p> <p>MRC has an approved sole source agreement for purchasing software licenses from CentralSquare Technologies.</p> <p>MRC has a shared system agreement with Virginia Department of Wildlife Resources for this software.</p>