



*Report on the Comprehensive Infrastructure Agreement  
to the Virginia Information Technologies Agency – June 2015*

## FINAL ENTERPRISE REPORT



The Virginia Information Technologies Agency (VITA) provides IT infrastructure services to executive-branch agencies throughout the Commonwealth of Virginia, primarily through a contract with Northrop Grumman. In anticipation of contract expiration in 2019, and with recognition of the complexity of change in such a large shared services environment, VITA is currently evaluating sourcing strategies to better align with current best practices and future customer requirements. Toward that end, VITA has commissioned Integris Applied, an IT sourcing advisory firm with focus on the public sector and next-generation sourcing models, to assess the current environment and develop a long-term strategy.

This report is provided by Integris Applied to VITA, its customers, and the Commonwealth of Virginia at large. It describes the agencies' perspectives on the effectiveness of the VITA / NG partnership in serving their needs. Future reports will complement these findings to provide a full assessment of the current situation and specific executable recommendations.



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## 1. Executive Summary

The Virginia Information Technologies Agency (VITA) has undertaken a comprehensive assessment program to develop recommendations for a next generation sourcing strategy in the Commonwealth of Virginia (COVA). Efforts to understand the attributes desired by agencies in the Commonwealth's new sourcing and delivery model have been documented, and will be restated in this report. The priorities of individual agencies are an important element of the Commonwealth's enterprise approach to technology management. Equally crucial are the requirements of the enterprise itself, such as working within budget parameters ensuring citizen data are secure, and delivering services as efficiently as possible.

This Enterprise Report builds on the Agency Assessment report. It incorporates the findings from the Agency Assessment with observations discerned from interviews with VITA directors, COVA leadership and stakeholder interactions in the forums used for the sourcing strategy program.

### Agency View

As documented in the Agency Assessment report, our interviews with over 60 agencies identified a "hierarchy of needs" which represents the most pressing delivery issues facing COVA agencies. Within this hierarchy, improved day to day service delivery is the most desired characteristic of a new service delivery model. Broader themes also emerged:

- **Empathy for agency business operations**  
Agencies do not believe the IT Infrastructure Services Partnership ("Partnership") understands or appreciates the impact of service delays, disruptions or unplanned changes on agency operations.
- **Existence of operational silos**  
Agencies experience poor communications between the various VITA and Northrop Grumman internal organizational silos.
- **Cost**  
Agencies perceive that Partnership services are much more expensive than what can be purchased in the market.

These perspectives will help shape a future delivery model, and they will inform the tradeoffs that will occur when decisions are made for a future state. Keeping them in mind when discussing the enterprise view is therefore an important means of ensuring agency concerns are addressed.

### Enterprise View

Many themes at the agency level also emerged at the enterprise level. In discussions with Commonwealth leadership, cost, agency inclusion, and operational effectiveness were mentioned as important challenges VITA faces in the development of a new sourcing strategy. These agency priorities must be balanced with the requirements of the enterprise. VITA's role leading the development and implementation of an improved delivery model, and helping the Commonwealth address policy goals, will help set the tone for its leadership position in the enterprise.

The three themes that summarize the enterprise view during the course of our discussions with COVA leadership are:

- **Support for an enterprise model**  
COVA leadership recognizes the need for, and supports, an enterprise approach to technology management. We found little, if any, desire to return to a federated model where services are



managed by individual agencies. At the same time, both COVA leadership and agencies agree that there is dissatisfaction with the current delivery model and a desire for VITA to make changes.

- **Understanding of policy decisions**

Any changes to the Partnership and the contracts that define it will require decisions on three key policy areas:

1. Disposition of assets
2. Data centers
3. Personnel

Each issue has strategic and financial implications for the Commonwealth. However, it is clear that Commonwealth leadership understands these implications. There is an express desire to retain more management control over IT expenditures in a future model, and the Commonwealth is willing to explore options that support this policy goal.

- **VITA's role in the enterprise**

In spite of frustrations with the current delivery model, there is a need for VITA's leadership role in the enterprise. VITA has an opportunity to clarify its role in the enterprise, involve customers on improvement projects, and develop a management framework for a new service delivery model that engages agency customers.

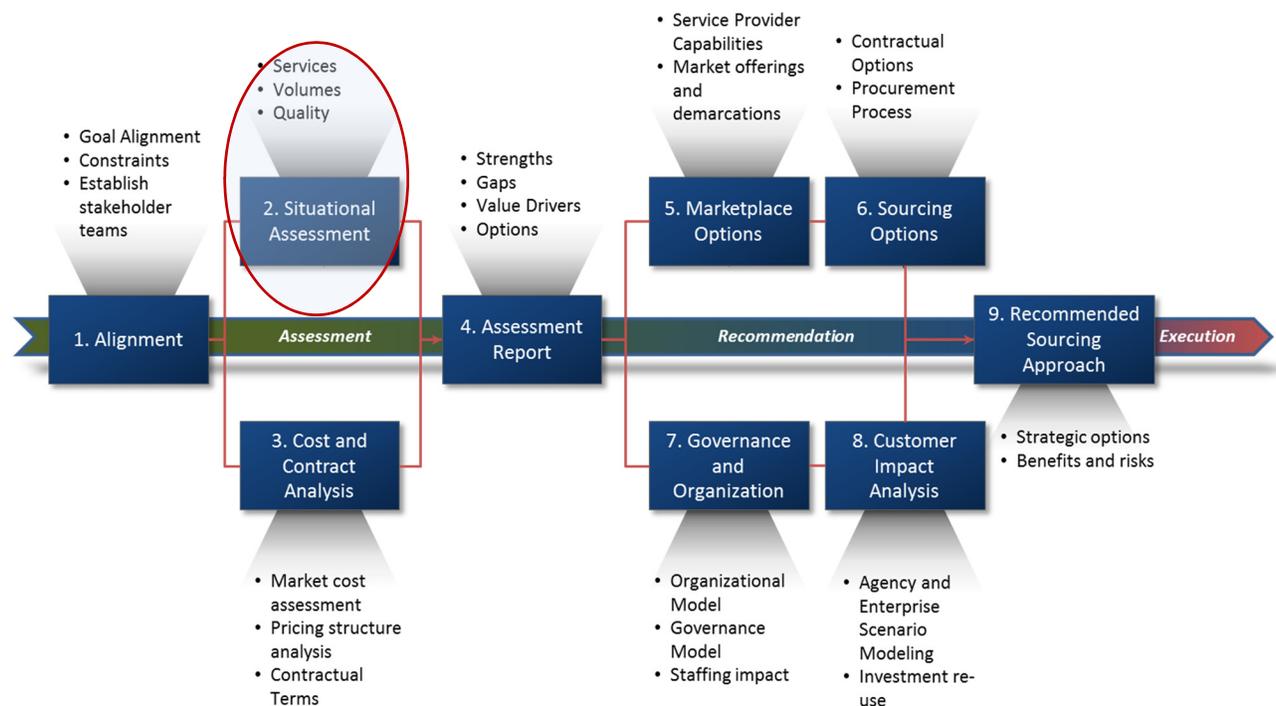
In any delivery model there will be tradeoffs between enterprise requirements and agency priorities. VITA's sourcing strategy program was designed to engage both agencies and the enterprise in that dialogue. Along these lines, VITA has begun to reestablish its leadership role in the enterprise. As this report demonstrates, agencies and the enterprise have common objectives. Flexibility, cost management and improved service delivery are the most prominent of these. As recommendations develop, these objectives will be balanced with requirements, such as budget parameters, that are established at the enterprise level.

## 2. Objectives of the Situational Assessment

The objective of the Situational Assessment phase of the project is to obtain unfiltered input from COVA stakeholders, and to develop an understanding of the mission and priorities of each agency, and the requirements of the enterprise as a whole. This input will guide the development and evaluation of recommendations for the Commonwealth’s next generation sourcing strategy.

The situational assessment outputs include both the Final Agency Assessment Report and the Final Enterprise Report. These reports are two of the primary building blocks in the IT Infrastructure Sourcing project.

Figure 1, The Assessment Phase



The Assessment phase, which includes the situational assessment, is shown in Figure 1. The Assessment phase is critical not only for shaping the recommendations in the second half of the IT Infrastructure Sourcing Strategy program project but also for the tone it will set with agencies and other stakeholders. VITA’s initiative is much more than a second generation sourcing event: it is a significant change management program for a large and complex enterprise.

The approach used for the situational assessment and the program as a whole is intended to:

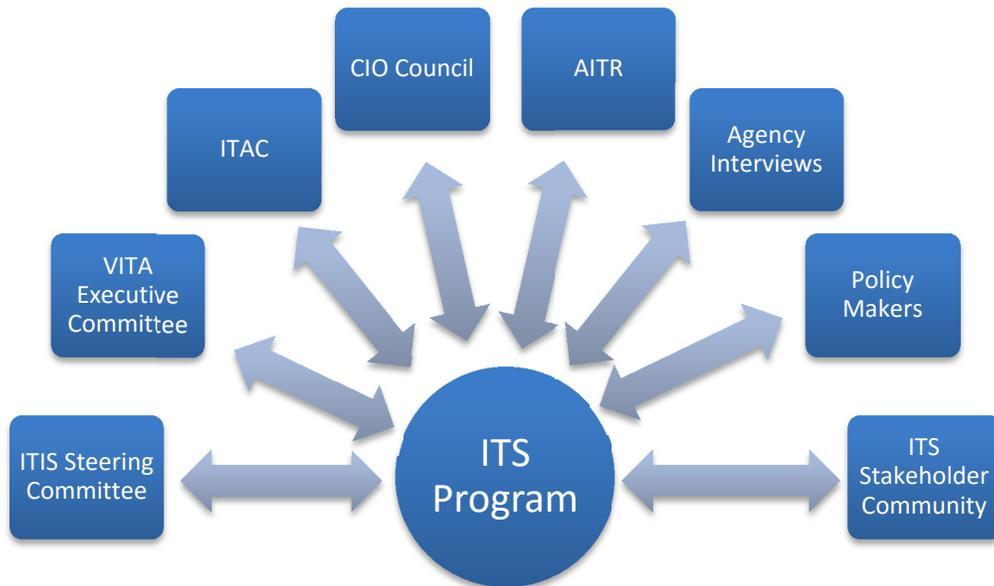
- Collaborate with agencies and policy makers
- Recognize agency business requirements and customer service needs
- Create buy in for options and the need for change
- Balance agency priorities with enterprise requirements
- Develop forums for ongoing dialogue and feedback



It is Integris Applied's experience in programs of this size and scale that early engagement of end users delivers the best outcomes for the organization. VITA's engagement of stakeholders through forums and interviews is the most extensive outreach program we have seen at this point in a re-sourcing initiative.

### 2.1 Forums

An objective of the IT Infrastructure Sourcing Strategy program is agency participation and engagement. As noted above, the VITA team, including Integris Applied, developed and implemented a communications strategy that includes multiple forums for dialogue and feedback. The forums used are depicted below:



The Integris Applied team implemented a formal interview process to gather much of the agency and enterprise data presented in these assessment reports. At the same time, the forums used by VITA have offered additional sources of data and views that have informed Integris Applied's perspectives and observations.

### 2.2 Agency Complexity Framework

Since the implementation of the Partnership in 2006, COVA experienced the challenges that all enterprises face when implementing change programs – balancing the needs of the enterprise as a whole with the individual needs of agencies. In any model tradeoffs must be made. As the Commonwealth considers a new IT services sourcing strategy, it is important to communicate potential tradeoffs to all stakeholders and use those tradeoffs as a basis for determining how a new delivery model should be implemented.

This challenge is also manifest in the marketplace's understanding of an enterprise model. Traditionally, large providers have offered services that are targeted at the enterprise rather than the individual agencies. Doing so facilitates ease of contracting, reporting and delivery, and lowers costs. It is also the way "it has always been done."



Prior to conducting interviews, Integris collected existing data about VITA's services to agencies, and about the agencies themselves, to create a database that will be used to model the "complexity" of an agency through a framework that will consider factors such as types of services provided by the agency, agency regulatory requirements, public visibility, security requirements and technology spending levels.

The purpose of this framework, when combined with the feedback from interviews, is to capture the unique characteristics of agencies in a manner that is more efficient than an agency-by-agency approach, and that is more customized than a standard enterprise-level services model has traditionally allowed. This framework is designed to allow the needs of the enterprise and the agencies to be seen simultaneously, allowing a clearer understanding of sourcing strategy options, and helping the marketplace understand the Commonwealth's service requirements in a more nuanced manner.



## 3. Engaging the Enterprise

### 3.1 Agency Interviews

To initiate the Situational Assessment process, the Integris Applied team requested to meet with every agency that receives services from VITA; ultimately, ninety percent of these "in-scope" agencies participated in structured interviews to discuss future business needs and concerns about the current service delivery model. A discussion of the findings from these interviews, and from a corresponding online survey, can be found in the Final Agency Report. To summarize these findings, the four most common concerns cited throughout all interviews are:

- 64% - Cost
- 61% - Silos/Difficulty to deal with partnership
- 57% - Flexibility/One-size-fits-all solutions
- 52% - Slow/Responsiveness

With exceptions, most agencies did not want to provision their own infrastructure services. Instead, many agencies indicated their support for a common infrastructure provider and acknowledged the need for the oversight roles fulfilled by VITA. However, the majority of agencies report considerable difficulties from working with the current service delivery environment. While each agency has its own concerns, the interview process highlighted those themes that must be addressed in a new model:

1. Empathy for agency business operations
2. Existence of operational silos
3. Cost



Nearly all agencies report the same service delivery issues and difficulty working with the Partnership. Differentiation amongst agencies was related to the amount of change each agency faces from budgetary stress or business change. Small agencies have additional needs due to lack of IT resources.

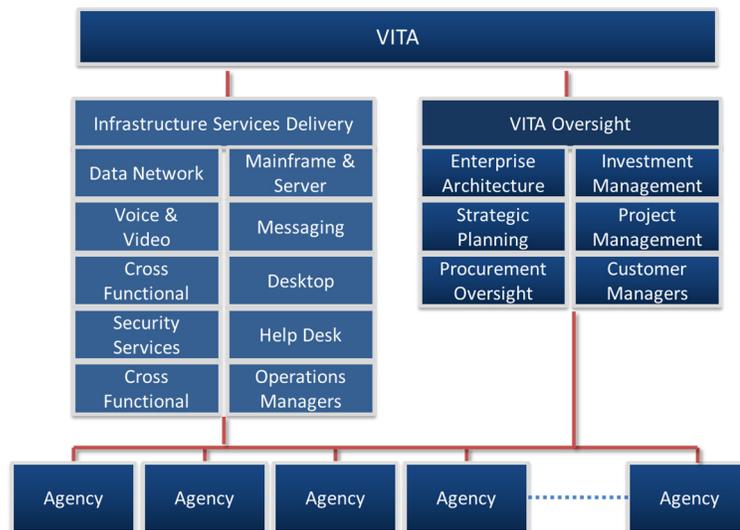
### 3.2 VITA Interviews

The agency interviews focused on VITA's customers. For the second phase of the interview process, and to build the Enterprise Assessment, Integris Applied interviewed VITA and various enterprise stakeholders representing a range of responsibilities across the enterprise VITA Internal Organization Interviews

As the provider of IT services for the Commonwealth, but also a consumer of those services, VITA has a unique role. VITA's perspective represents its daily and historical engagement managing the Partnership on the Commonwealth's behalf, while consuming the services it is managing. VITA is responsible for responding to agency requests and managing Northrop Grumman. VITA understands the challenges inherent to the Partnership and also sees the progress the Partnership has made since its inception.

In addition, VITA also has statutory governance responsibilities that help the Commonwealth oversee technology investments. These enterprise responsibilities are defined by legislation and include approving and reporting on certain state agency technology expenditures. These oversight responsibilities are necessary functions of a central IT office and provide the enterprise with an ability to apply consistent practices to activities such as procurements, standards setting and project management. While agencies have difficulty distinguishing these governance responsibilities from service delivery challenges, VITA's enterprise governance activities are neither the root cause of the current delivery model's shortcomings nor are they within scope of this assessment. All of VITA's responsibilities are enumerated in its enabling legislation<sup>1</sup> and depicted in the functional organization chart below:

Figure 2 VITA functions



<sup>1</sup> [http://vita.virginia.gov/uploadedfiles/VITA\\_Main\\_Public/Library/Legislation/2003VITAEablingLeg.pdf](http://vita.virginia.gov/uploadedfiles/VITA_Main_Public/Library/Legislation/2003VITAEablingLeg.pdf)



In many cases VITA’s governance responsibilities overlap with service delivery processes. This overlap is a common occurrence for any enterprise agency – agency service delivery needs and enterprise demands inherently intersect.

No matter what confusion or frustration may exist around governance functions, service delivery remains top of mind for all stakeholders. Approximately 80% of VITA’s budget is expended on service delivery management activities, primarily as pass through to the Commonwealth’s service provider. However, because VITA must fulfill its extensive statutory governance responsibilities, only 15% of VITA’s staff is allocated to the management of the Partnership. 11 FTEs directly oversee Northrop Grumman and another 25 are allocated at 25-50% of their time. The balance of VITA’s staff (163 FTEs) have other duties that directly tie to statutory functions.

To gain a deeper understanding of VITA’s perspective, Integris Applied met with the leaders of the following internal VITA activities to include those with “VITA Oversight” responsibilities. The chart below outlines those functions and depicts their alignment within VITA’s scope of responsibilities. It also demonstrates the intersection of service delivery and oversight roles.

Infrastructure Services Delivery	Hybrid	VITA Oversight
Architecture	Supply Chain	Project Management Division
Service Management	IT Investment Management (ITIM)	Relationship Management and Governance
CRM	Work Request	
Technical Services	Security Division	
OCM (ReVITAlization)		
Internal Audit		

#### 4. VITA Interview Observations

Integris Applied met independently with the directors of these functions. Our observations from these interviews are categorized in four areas:

1. Progress in meeting the assigned goals
  - The Partnership’s original objectives have been substantially met, though these accomplishments are overshadowed by service delivery challenges;
2. Difficulties caused by the service provider
  - VITA encounters the same service delivery challenges as the agencies. These challenges in turn inhibit VITA’s ability to focus its resources on supporting agencies and improving the overall delivery of services.



### 3. Efforts to improve operations

- VITA has launched internal initiatives to improve service. These efforts were not generally acknowledged by agencies and provide an opportunity for improved communications from VITA.

#### 4.1 Progress in meeting the assigned goals

VITA appears to have made material progress in meeting many of the goals enumerated in the Comprehensive Infrastructure Agreement (CIA) referenced in appendix 8. VITA points out that while routine service delivery should be better than it is today, the enterprise objectives defined at the CIA's inception have been substantially met. These objectives include:

- *Manage the IT infrastructure*
- *Implement a secure Intranet*
- *Establish a state of the art data center and back up facility*
- *Consolidate agency servers*
- *Implement a desktop management program*
- *Establish a unified statewide electronic mail services*
- *Provide a statewide customer care center*
- *Improve major IT project success rates*

In addition, VITA also appears to have made considerable progress achieving COVA expectations for consolidation, standardization, control over assets, and economies of scale. Examples of improved standardization in the infrastructure include

- 60% of servers in the CESC data center are standardized
- 47% of servers outside the data center are fully transformed (with 67% of the remaining servers not transformed due to Legacy Domains)
- 51% of servers in the CESC data center are virtual
- Server storage in the CESC data center uses a common SAN system
- COVA has a centralized, multiservice network with only two entry points
- All users are consolidated into one email system with a single global directory

Another example of progress is asset management. COVA uses an electronic inventory of hardware and software known as a configuration management database (CMDB). The CMDB acts as a data warehouse for IT assets and the relationships between such assets. The CMDB is estimated to be 95% complete and is kept current. VITA notes that control over assets and purchasing power (economies of scale) have not necessarily translated into lower rates in the latter years of the contract. However, the Commonwealth has achieved a level of transparency into its expenditures and use of IT infrastructure services that it could not have obtained without the Partnership. This level of transparency will be an important element for any future delivery model.

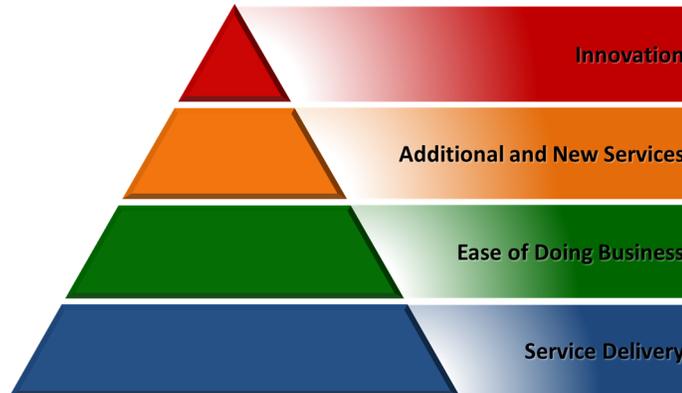
The level of consolidation and standardization allow for consistent security monitoring, vulnerability scans, penetration testing, and incident response. In addition, VITA's technical environment, including new tools such as the CMDB, will provide a good base for future procurements and potential transitions to new service providers.



## 4.2 Difficulties caused by the service provider

As depicted in the “Hierarchy of Needs” for the Final Agency Report, many internal VITA groups interviewed by Integris Applied reported difficulties with service delivery and service provider responsiveness that are similar to the frustrations voiced by agencies. An undue amount of VITA's effort is expended on delivery issues and silo coordination; this effort is described in the Final Agency report and is discussed below.

Figure 3 – Hierarchy of Agency Feedback



Examples from the interviews of internal VITA groups include:

- Service Delivery:** The Security Division reports that the Northrop Grumman is responsive when asked to apply specific patches but has poor responsiveness for a reliable process to proactively apply all patches. Security also reported that the provider is unenthusiastic about addressing weak areas, such as preventative measures, that are not specifically enumerated in the CIA and provides weak cooperation implementing new tools or activities, such as identity management, that are not already provided by provider's existing account staff.
- Service Delivery Processes:** Several VITA leaders noted that Northrop Grumman appears to have good tools but weak processes and weak expertise. The service provider insists that they have sound processes, but evidence that these processes are used is not visible in practice: i.e., limited availability of metrics that should be routine, the inability to give percent completion of projects, or to itemize risk factors.
- Ease of Doing Business:** VITA's IT Investment Management (ITIM) staff reported ongoing difficulties convincing internal Northrop Grumman towers to work together to install the Oracle PPM tool that supports the Commonwealth Technology Portfolio (CTP). The Oracle PPM is a web-based Oracle package installed in layers with many dependencies. It requires multiple Northrop Grumman towers (Oracle, sequel server administrator, and project manager) to work together with VITA groups (logical DB, server logical admin, architecture, applications, Oracle). These activities were not fully addressed in the CIA, and support by Northrop Grumman is not well coordinated. The inability of VITA to install and maintain this system frustrates state agencies, who are required to submit projects to ITIM via the CTP to comply with VITA's oversight responsibilities. VITA's Project Management Division staff reported similar agency frustration when the project data is not available or systems are slow due to weak support by the

service provider. This case study is a poignant example of the interdependencies between VITA's service delivery challenges and its ability to perform its enterprise oversight functions.

- **Additional and New Services:** VITA and the service provider do not agree about what constitutes a new service or about how new services are to be implemented under the CIA. This results in an inefficient, informal process between VITA and the service provider. Since Work Requests do not have contractual SLAs, an informal response time of 45 days is the accepted practice. The total time to complete common requests, such as provisioning servers, is typically 3-4 months: 45 days for the service provider to prepare a proposal, 10 days for VITA to review the proposal, time for the agency to review then 30-60 days for Northrop Grumman to implement the solution. Additional time is often required while VITA and the service provider resolve whether the services are already required by the CIA or already have defined Resource Unit prices.
- **Innovation:** VITA's Technical Services staff described weak responses from Northrop Grumman when asked for innovative solutions, including small changes that would benefit the service provider such as installing a drawing/management tool to track equipment in the data center that has been suggested to every partnership facility manager but did not receive consideration even though it is needed this is on a daily basis finding the exact location of equipment and especially important during outages to identify exactly what equipment is impacted. They described the service provider's lack of interest in developing features that are not already enumerated in the CIA. In addition, they report that Northrop Grumman's staff frequently ask customers to provide information or prepare work that the service provider could do themselves, and a lack of effort to prepare new solutions that cannot be implemented by using existing staff and tools.

It is important to note that Integris Applied did not interview service provider staff.

### 4.3 Efforts to improve processes

For the past 1 ½ years, VITA's Valued Customer Experience (VCE) Projects initiative has directed a collaborative process with agency AITRS resulting in 107 solutions merged into 54 initiatives in 5 areas of improvement that align to many of the issues identified by Integris Applied during the agency interviews.

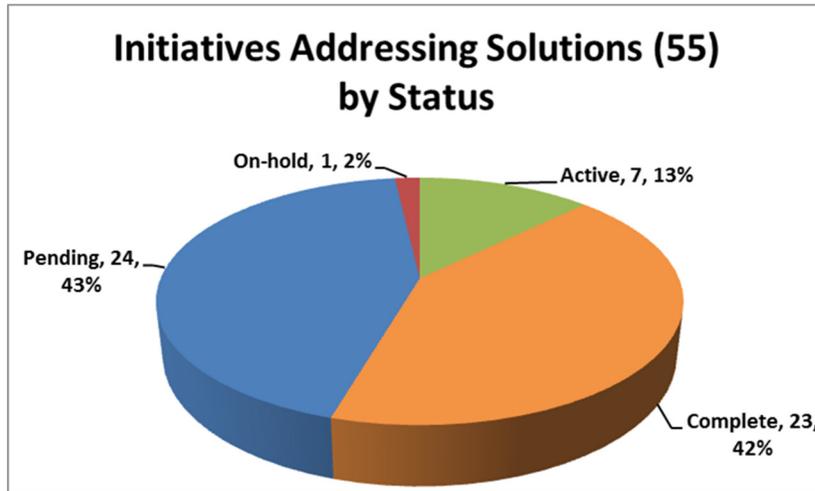
- Work requests
- Planning interactions with Commonwealth Technology Portfolio (CTP)
- Treating agencies as partners
- Multi-tower service delivery
- Starting new services

These efforts appear to be correctly focused on many of the same issues identified during the agency interviews, but they were not mentioned in any of the agency interviews.

Currently the VCE is completing these initiatives. During the interview with Integris Applied, it appears that earlier progress may have slowed due to lack of support by the service provider. Most changes recommended through the VCE program are not contractual requirements, and VITA staff assigned to implement VCE initiatives are consumed with their day-to-day responsibilities. Nonetheless, the status report to at the June AITR meeting shown in Figure 5 identified that 13% of the solutions are underway with 42% of the Initiatives completed. Nine new initiatives were started during the past quarter alone.



Figure 5 – Status of solutions.



#### 4.4 VITA’s Leadership Role

Historically, the state CIO has been hindered from using all contractual tools at VITA’s disposal to enforce the terms of the CIA. A recent study issued by the Joint Legislative Audit and Review Commission (JLARC)<sup>2</sup> describes the challenges the CIO has faced when negotiating with the Commonwealth’s provider or demanding performance improvements. In any agreement of the size and scope of the CIA it is a best practice that the CIO be in a position to use standard contractual terms to drive provider behavior and performance.

The events articulated in the JLARC report have had an impact on the psyche of the VITA organization. During interviews with VITA staff there were multiple references to perceived lack of support for VITA. The belief derives from the following factors:

- A former CIO and his key staff were removed due to influence of the service provider;
- The perception that a substantial amendment to the CIA (Modification 60) weakened VITA’s leverage to enforce performance of the CIA.

Regardless of the root cause of perceptions held by VITA staff, Integris Applied observed during the course of this assessment that the enterprise is ready for VITA to reestablish itself as a leader in the development of the Commonwealth’s technology strategy. VITA’s enabling legislation, and recent changes made by HB 2323 empowers the organization with the authority needed to serve in a leadership role.

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<sup>2</sup> <http://jlarc.virginia.gov/reports/Rpt459.pdf>



## 5. Enterprise Leadership Perspective

Integris Applied met with various members of COVA Secretariat leadership. Participants described their experiences as Secretaries from an operational and strategic perspective. Operationally, participants describe issues similar to those discussed by the agencies. Given that any Secretary is responsible for numerous agencies, this consistency in message is no surprise. Regardless, it is notable. Integris Applied has discerned a near universal agreement across the Commonwealth that the current Partnership is not meeting the most basic delivery needs outlined in the contract.

The strategic observations from enterprise leadership relate to:

1. Support for the enterprise model;
2. VITA's role within that model;
3. An awareness of the policy and budgetary decisions the Commonwealth will face in making changes to the Partnership;

An elaboration of these points is provided below:

- **Support for an enterprise model**

As with the agencies, the effect of the long history of the Partnership on current opinions was manifest throughout the interviews. There is dissatisfaction with the current delivery model and a desire for VITA to make changes. At the same time, COVA leadership recognizes the need for, and supports, an enterprise approach to technology management. We found little, if any, desire to return to a federated model where each agency is independently responsible for the purchase and support IT infrastructure services.

There is a desire to provide more flexibility to the agencies and to the enterprise, especially flexibility with cost management. Enterprise leadership would like to have more control of cost than the current contract allows. This issue is discussed in more detail below.

- **VITA's role in the enterprise**

In spite of frustrations with the current delivery model, there is a need for VITA's leadership role in the enterprise. In addition to the management of IT services, VITA has an opportunity to lead on broader topics such as data strategies and enterprise solutions that extend beyond those provided through today's partnership. It was noted that to fulfill a leadership role, VITA's communications efforts should improve. VITA has an opportunity to clarify its role in the enterprise, engage customers on improvement projects and develop a framework for a new service delivery model that involves agency customers.

- **Understanding of policy decisions**

Any changes to the Partnership and the contracts that define it will require decisions on three key policy areas:

1. Disposition of assets – should the Commonwealth own IT assets or should it continue to lease those assets? There are pros and cons to each approach. What has emerged in conversations and interviews is a desire for the Commonwealth to own assets. This would require a capital expense. While no decision has been made on this topic, there



at least appears to be an understanding of the costs should the Commonwealth own assets in a new delivery model.

2. Data centers – Commonwealth data centers are currently leased through the Partnership. Any new delivery model will need to consider options such as continuing a lease, moving assets to a new data center, or building new data centers;
3. Personnel – Any new delivery model will need to consider the staffing levels required to support the Commonwealth. Currently ~500 personnel support COVA through the partnership.

Each of these decisions could require a capital expenditure. At the same time, enterprise leadership expressed a desire to retain more managerial control over costs. In a services contract such as the CIA certain costs, such as hardware refresh charges, can be “built in,” requiring capital expenditures regardless of budgetary pressures. Owning assets can lead to more control over expenditures for an enterprise. The tradeoff is potential delays of technology upgrades that could impact service levels.

While it is premature to make final recommendations on any of these items, and while the Commonwealth has not committed to any final path, it is important to note that a general understanding of these issues and the implications related to each one exists across stakeholders.

## 6. Enterprise Report Summary

A near universal agreement exists across the Commonwealth that the current Partnership is not meeting the basic service delivery needs of the enterprise. The Commonwealth is prepared to make the changes that provide it with the services it needs. Across all stakeholders, there is a deep understanding of the policy and budgetary implications that any change may cause. For this change to occur, however, VITA’s leadership and the enterprise’s support for that leadership are required. Integris Applied believes that the enterprise will support VITA’s efforts to transition to a new service delivery model as long as the plan to do so is sound and incorporates lessons learned over the term of the Partnership.