

Virginia Information Technologies Agency



Assessment of the Comprehensive Infrastructure Agreement with Northrop Grumman

*Reported pursuant to Item 428(F) of the
2013 Appropriation Act*

Virginia Information Technologies Agency

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Introduction

Pursuant to Item 428F of the 2013 Appropriation Act, the Chief Information Officer of the Commonwealth (CIO) shall provide the Governor and the Chairmen of the Senate Finance and House Appropriations Committees with an assessment of the Comprehensive Infrastructure Agreement (CIA) with Northrop Grumman. The assessment is required to include (i) a detailed overview of all in-scope agency infrastructure transition timelines and costs, including untransformed agencies; (ii) describe all efforts undertaken to ensure the market competitiveness of the fees paid by the Commonwealth to Northrop Grumman; (iii) assess whether the financial and contractual terms of the agreement ensure that the Commonwealth's needs are met, including whether any modifications thereto are required; and (iv) identify options available to the Commonwealth at the expiration of the agreement, including any anticipated steps required to plan for its expiration. This report is submitted in satisfaction of that requirement.

In the 2003 Session, the Governor proposed and the General Assembly enacted legislation that consolidated the information technology (IT) infrastructure and related staff of most executive branch agencies into the Virginia Information Technologies Agency (VITA). In addition to provision of IT services, the 2003 and subsequent legislation also assigned several IT oversight responsibilities to the Secretary of Technology, CIO, and VITA. These duties include promulgation of IT policies, guidelines, and standards; procurement of IT goods and services; oversight of cyber security (IT systems and data); approval of agency IT projects and IT strategic plans; and review of IT budget requests.

Because the public capital needed to modernize and standardize the state's IT infrastructure was not available, the Commonwealth decided to obtain private capital under the Public-Private Education and Infrastructure Act (PPEA). Following a competitive procurement that included staff from 21 state agencies, the Commonwealth, acting through VITA, signed a very extensive contract (or "agreement") in 2005 with Northrop Grumman for the provision of IT infrastructure, including computers (personal, server, and mainframe) and related software, data storage, email, networks, telephony, data center services, security, and disaster recovery. Northrop Grumman is also tasked with management of the infrastructure, including monitoring of data circuits and facilities; engineering and acquisition; integration and testing; capacity and performance management; incident and problem resolution; configuration, change, and release management; IT service continuity; and asset and license tracking.

Northrop Grumman began delivering IT services on July 1, 2006. The "term" of the agreement (the time period during which Northrop Grumman is obligated to provide services) is currently set to expire on July 1, 2019. Although provision of IT infrastructure services was outsourced to Northrop Grumman, VITA retains responsibility for overseeing Northrop Grumman's performance of its contractual obligations. VITA also continues to provide other IT services, including telecommunications, geographic information systems, E-911 support services, and enterprise services (such as SharePoint, enterprise data management, and customer relationship management). VITA is also responsible for fulfilling the statutory duties noted above, including the Commonwealth's IT security and risk

management program, oversight of agency IT projects, development of a statewide approach to IT architecture and standards, and negotiation of statewide IT contracts for use by all public bodies.

Since the agreement was signed in 2005, the Commonwealth has focused on efforts to “transform” agencies by replacing outdated IT infrastructure with up-to-date and standardized equipment. This has been a largely agency-specific, tactical approach. VITA and the Commonwealth now need to expand existing efforts on enterprise-wide and strategic objectives, while continuing to ensure tactical and operational needs are met. To accomplish this, VITA and the Commonwealth need to ensure all agencies complete the transformation process, and also consider whether additional steps are needed to ensure the Commonwealth pays a reasonable price for a reasonable level of IT services. The requirements in the agreement itself may also deserve additional review, both to ensure the Commonwealth’s needs are met and to appropriately plan for expiration of the agreement. Several options appear to be available to the Commonwealth upon expiration, but the Commonwealth’s ability to fully exercise those options depends upon timely answers by executive leadership, including the Secretary of Technology and other policymakers, to certain salient questions noted below. Lastly, as VITA has previously reported, shortages of staff impede VITA’s ability to fulfill its statutory duties. These staffing shortages directly hinder the efforts of other state agencies, as seen in procurement and project delays, insufficient customer service staff, and a “thin bench” of subject matter experts on infrastructure services. To an extent, the effect of staffing shortages can be offset through use of consultants, but additional staff will be required to keep pace with increasing service demands while also preparing for expiration of the Northrop Grumman agreement.

Overview of Agency Transformation Timelines and Costs

A key deliverable required by the Northrop Grumman agreement is “transformation” of the IT infrastructure used by the 89 in-scope executive branch agencies into a “managed service” environment. Under this environment, Northrop Grumman is responsible for providing and managing the staff, hardware, software, and facilities needed to operate the Commonwealth’s IT infrastructure. Transformation includes 74 milestones and other enterprise-wide deliverables, such as the construction of two new state data centers. Transformation also includes a substantial number of agency-specific tasks at more than 2,000 sites across the Commonwealth for the 89 state agencies.

Northrop Grumman assumed responsibility for delivering IT services on July 1, 2006, and the goal was to fully complete transformation by July 1, 2009. On June 30, 2009, VITA formally notified Northrop Grumman that transformation had not been completed and requested a corrective action plan. Northrop Grumman’s plan then proposed a new completion date of July 1, 2010. Subsequently, 18 of 89 agencies completed transformation by October 2009, and 58 were transformed by July 2010. A total of 82 were then transformed by February 2011.

Presently, only three agencies have not completed transformation: the Virginia State Police (VSP), the Virginia Department of Emergency Management (VDEM), and the Virginia Employment Commission (VEC). Each agency faces a relatively unique set of circumstances that have required a non-standard approach to transformation:

- VSP must ensure its IT services comply with the Federal Bureau of Investigation's Criminal Justice Information Services (CJIS) security standards. And though both VITA and VSP are actively developing a solution that complies with CJIS and VSP requirements, it is not clear when VSP will begin or complete transformation. The one-time cost for VSP to complete transformation and comply with the agency's unique requirements is currently estimated to be approximately \$1.8 million, plus recurring costs of about \$1.6 million per year.
- VDEM and VITA continue to refine a solution that will meet VDEM's high-availability and unique system requirements, and recently agreed to an informal timeline where VDEM's transformation will begin in April 2014 with completion projected in 2015. The one-time cost for VDEM to complete transformation is currently estimated to be approximately \$800,000, plus recurring costs of about \$30,000 per year.
- VEC has faced challenges resulting from a reliance on federal funds and an extensive parallel effort to modernize its unemployment insurance application. Yet VEC has already made progress toward transformation: VEC's desktop and network are transformed, and server transformation is underway. At present, additional transformation activities are not scheduled it is not clear when VEC will resume transformation. As a result, the timeframe and cost for VEC to complete transformation is not known.

Until these agencies complete transformation, they will continue to be assessed the "legacy fees" required by the Northrop Grumman agreement. These fees reflect the higher costs of supporting an untransformed, non-standard IT environment. Accordingly, legacy fees decrease as progress is made toward transformation, and this will partially offset the recurring costs noted above. Since legacy fees were first assessed in February 2011, a total of \$6.8 million has been paid by seven agencies. Sixty-two percent of this amount has been paid by VSP, VEC, and VDEM, which are the only agencies that are continuing to incur legacy fees. The current monthly legacy fees are approximately \$61,000 for VSP, \$21,000 for VEC, and \$8,800 for VDEM. As a percentage of their monthly IT charges, this equates to 1.4 percent, 1 percent, and 4.2 percent, respectively.

In addition to expending unnecessary resources, the three agencies that have not yet completed transformation continue to operate at an elevated level of risk to both the agency and the Commonwealth. Until VSP, VDEM, and VEC complete transformation, the security mechanisms that protect other executive branch agencies are not available to them. These security protections include network monitoring, anti-virus scanning, malware protection, and intrusion detection technology. Moreover, VITA's insight into untransformed environments is highly curtailed, which prevents VITA from identifying security issues and ensuring the IT environment in each agency meets established security standards and best practices. This limited insight also hinders efforts to remediate a security incident, and limits VITA's view of enterprise-wide patterns of risk that could affect other

agencies. Accordingly, there is a greater probability that an IT security incident at these three agencies could adversely impact the security of data held by the Commonwealth and the safety of those staff and citizens who depend on their systems. An incident could also create a financial risk. For example, a significant data breach, such as the 2012 data breaches in South Carolina and Utah, results in significant costs. It is estimated that the South Carolina Department of Revenue data breach will cost that state more than \$20 million, and the Utah Department of Health data breach is estimated to cost between \$2 million and \$10 million. Until transformation is completed, these three agencies will be at an elevated level of risk for operational and security incidents, including outages and breaches.

Additional Steps May Be Required to Ensure the Market Competitiveness of the Fees Paid by to Northrop Grumman

The contractual means by which the Commonwealth can ensure the fees paid to Northrop Grumman remain competitive is a “benchmarking” process delineated in the agreement. The use of benchmarking is especially important given the length of the term, which limits the Commonwealth’s ability to use the marketplace to ensure price competitiveness. Although VITA is able to engage in assessment efforts other than those set forth in the agreement, those activities are hindered by resource constraints. In addition, it is not clear whether the results of such efforts would lead to pricing and contractual changes.

If certain conditions are met, the agreement allows VITA to request benchmarking by a mutually-acceptable third party at regular intervals during the term. Northrop Grumman is required to pay one-half of the cost of such third-party benchmarking. The benchmarking process provides for inclusion of private sector comparisons, as well as public sector ones, and for assessing both the service levels provided and the fees charged by Northrop Grumman. If the benchmarking indicates that Northrop Grumman’s aggregate fees “are not at least as customer favorable as the average of the best twenty five percent (25%) of the prices associated with similarly bundled service offerings,” then Northrop Grumman is required to adjust its fees to eliminate “any customer unfavorable variance.” Likewise, if the benchmarking indicates that Northrop Grumman’s service levels are less favorable than those received by comparable entities, then Northrop Grumman can be required to adjust the relevant service levels. There are certain exceptions and limitations, as well as other more specific benchmarking requirements.

At VITA’s request, during calendar year 2013, Northrop Grumman compared its agreement to other agreements and found the Commonwealth receives a mix of favorable and unfavorable pricing. Specifically, the Northrop Grumman agreement was compared to those between Hewlett-Packard and I.B.M., respectively, and the County of San Diego and the State of Georgia. Northrop Grumman’s assessment indicated that the Commonwealth receives favorable pricing for some services, including mainframe data storage and print, certain sizes of server computers, high-availability data storage, and help desk services. In contrast, the assessment also noted that the Commonwealth receives less favorable pricing for mainframe processing, certain types of data storage, network services, and telephony (UCaaS).

Although Northrop Grumman's effort produced some interesting information, it did not provide a satisfactory means of comparing the prices and services levels provided by Northrop Grumman to the prices and service levels in the other two engagements. VITA staff identified several concerns with the assumptions and methodology used by Northrop Grumman, including the steps used to normalize prices and quantities. For example, Northrop Grumman used inconsistent source data for the volumes or quantities to be compared, leading to skewed calculations of unit pricing. Northrop Grumman's assessment did, however, suggest several factors that may explain some of the variation between the three engagements, including differences in service volumes, contractual requirements, and the manner in which services are provided. For example, Georgia's disaster recovery services are provided from an I.B.M. facility in Colorado, and San Diego's data center services are provided from multi-tenant facilities in Texas and Oklahoma. In contrast, Virginia's two state data centers are located in the state and have restrictions on their use by other tenants.

A larger concern identified by VITA is that Northrop Grumman did not conduct this comparison as part of a contractual benchmarking effort. At present, VITA and Northrop Grumman do not appear to agree on the contract's benchmarking provisions. Northrop Grumman appears to interpret the provisions to imply that benchmarking can only be initiated if another outsourcing engagement can be found that is substantially similar to the Commonwealth's; Northrop Grumman also appears to take the position that there are no substantially similar IT service arrangements. VITA does not agree with either of those positions and is considering what other steps are available to the Commonwealth. This may include engaging a third-party to undertake benchmarking on the Commonwealth's behalf. However, funds presently are not available to engage a benchmarking consultant, and it's unclear if any extra-contractual effort (which uses an assessment outside of the agreement's benchmarking process) will result in changes to fees or service levels.

VITA Is Undertaking An Assessment of Whether the Northrop Grumman Agreement Meets the Commonwealth's Needs

In June of 2013, as the 13-year term of the Northrop Grumman agreement passed the mid point, VITA exercised its contractual option to have a Relationship Performance Assessment (RPA) by a mutually acceptable third party. Following a competitive process, VITA selected Gartner Consulting, a leading IT research and advisory company. Because the RPA followed the process outlined in the agreement, Northrop Grumman is contractually required to pay for the cost of the assessment.

As stipulated in the Northrop Grumman agreement, the RPA is examining several areas of the relationship between VITA and Northrop Grumman that will help VITA assess whether the agreement is meeting the Commonwealth's needs. Specifically, the RPA will assess VITA's and Northrop Grumman's alignment and vision, the contract and relationship, and customer satisfaction. The RPA will also provide recommendations for improvement.

Gartner began its assessment in mid-August. The assessment included document and data reviews, extensive interviews with VITA and Northrop Grumman staff, and several interviews and roundtables with representatives of state agencies (agency heads and chief information officers). VITA anticipates that the RPA will be complete in January 2014 and will report its results in a supplementary document.

Ability of the Commonwealth to Exercise Potential Options When Northrop Grumman Agreement Expires Depends Upon Completion of Prerequisite Steps During McAuliffe Administration

The Commonwealth potentially has several options when the term ends, including the in-sourcing, out-sourcing, multi-sourcing, or partial in-sourcing of IT infrastructure services. Under the agreement, the Commonwealth has certain specific options, including the purchase of data center facilities and IT infrastructure assets, and the hiring of Northrop Grumman employees.

However, the Commonwealth's ability to fully exercise those options depends upon how certain salient policy questions are answered by executive leadership, including the Secretary of Technology and other policymakers, and the extent to which these and other prerequisite activities are successfully completed in a timely manner. Although the term of the agreement will expire during the subsequent administration, VITA anticipates that most of the key policy decisions will need to be made during the McAuliffe administration. This schedule is needed to ensure sufficient time exists to fully identify and consider all potential options, while also ensuring the Commonwealth is positioned to meet certain contractual deadlines that occur in 2018.

Commonwealth Can Extend the Term and the Disentanglement Process

The term of the agreement, the time period during which Northrop Grumman is obligated to provide services, is currently set to expire on July 1, 2019. The Commonwealth has the option to extend the term by up to 180 days, until December 28, 2019. The decision whether to extend the term must be made by September 30, 2018.

The "disentanglement" process will begin nine months prior to the term's expiration if the contract with Northrop Grumman does not continue. (Currently, the disentanglement commencement date will occur on October 1, 2018.) The disentanglement process refers to the set of activities Northrop Grumman must perform "to accomplish a complete, timely, and seamless transition" to the subsequent provision of IT services in another way, whether by the Commonwealth, one or more third-party service provider(s), or a combination of approaches. The agreement provides that the disentanglement process may take up to two years to complete (potentially until March 2021) and must follow a negotiated disentanglement transition plan.

Because disentanglement activities likely will occur even after the current term expires, it is important to note that expiration of the term does not constitute a

termination of the overall agreement. Accordingly, all terms and conditions of the agreement remain in place until Northrop Grumman completes its disentanglement obligations, and the Commonwealth pays the applicable fees.

Timely Answers to Key Policy Questions Will Substantially Affect Ability to Exercise Other Options

The answers provided by policymakers to certain key policy questions will have a substantial effect upon the availability and viability of potential options. At present, three key questions have been identified for which VITA anticipates answers must be provided during the first half of the McAuliffe administration. Because transition planning and procurement activities will take a substantial amount of time, these questions must be answered in a timely manner. Using the three-phase timeline outlined below, VITA anticipates that answers to these questions will be needed by the end of calendar year 2015, which falls within the fiscal year (FY) 2015-2016 timeframe.

Will the Commonwealth require a dedicated state data center in Virginia for all purposes, or could an out-of-state and/or multi-tenant data center be used? As indicated above, Georgia and San Diego appear to use data centers that are either located out-of-state and/or have multiple tenants. In contrast, the Commonwealth has elected to use in-state data centers and to maintain contractual control over the ability of other tenants to use the facilities. The Commonwealth's current use of in-state data centers provides two key benefits: (i) it helps ensure that state data, the companies and persons providing state IT services, and the equipment and facilities used for state IT services all remain fully subject to the laws of the Commonwealth, and (ii) the jobs associated with the data center benefit Virginia localities. Likewise, the current use of a dedicated data center, which is sometimes referred to as a "private cloud," also provides a greater ability to ensure that state and federal requirements for data security are satisfied because the Commonwealth has direct control over who can access state data and equipment. Alternatively, if policymakers chose to use out-of-state and/or multi-tenant facilities, including public "cloud" services, this may decrease the cost and increase the capabilities of IT services, but it may also have employment impacts or pose challenges for ensuring Commonwealth control.

Will the Commonwealth have the funding needed to purchase a data center and IT infrastructure assets, whether from Northrop Grumman or another party? In 2005, IT services were outsourced in part because the Commonwealth lacked the funding needed to obtain new computer hardware, implement a modern network, and replace the state's aging data center. Consequently, the Commonwealth does not own the two state data centers and most of the IT assets used by state agencies. As discussed below, the agreement allows the Commonwealth to lease or purchase certain assets, but the one-time cost to buy the state's main data center and the IT assets used by state agencies from Northrop Grumman could exceed \$85 million at the end of the term. (The cost to purchase these items decreases over time as Northrop Grumman's initial capital investment is repaid; the cost in FY 2014 is approximately \$318 million.) If funding is not available, the Commonwealth will once again need to capitalize IT services through a vendor. Key options provided for in the agreement include:

- Commonwealth can sublease or buy one of the state's two data centers. The Commonwealth has the option to sublease the Chester data center (known as the Commonwealth Enterprise Solutions Center or CESC) from Northrop Grumman or to buy it from the property owner. Specifically, the Commonwealth can sublease CESC for up to two years (the balance of Northrop Grumman's 15-year lease), at a monthly cost of \$273,886 plus utilities and operating expenses. The Commonwealth can also purchase CESC from the real estate investment trust company that owns it (a subsidiary of Corporate Office Properties Trust), but it appears that any purchase must occur on a single day (June 30, 2019) and notification of the decision to buy CESC must be given to its owner by September 30, 2018 (or nine months prior to the term's expiration). In addition, the purchase price is not defined by the agreement and hence must be negotiated. (For reference, the 2013 assessed value of the building and land is \$38 million.) However, the agreement does not currently provide for Commonwealth ownership of the state data center in Russell County (known as the Southwest Enterprise Solutions Center or SWESC), nor does the agreement detail a mechanism by which the Commonwealth would have an ongoing right to use SWESC after the disentanglement process ends. As a result, VITA may be required to move the SWESC services and assets, which include all of the state's IT disaster recovery services.
- Commonwealth can lease or buy the IT infrastructure used by state agencies. The agreement gives the Commonwealth the option to enter into a five-year lease with Northrop Grumman for the hardware and software infrastructure used by state agencies, at a monthly cost of \$942,729. Alternatively, the Commonwealth could purchase the hardware and software infrastructure for \$46,493,938. However, exercise of these options may be affected by the current inability to sublease CESC for more than two years. Moreover, these options will need to be considered in conjunction with the Commonwealth's existing right to obtain from Northrop Grumman "all tangible assets used by vendor ... that are no longer the subject of or encumbered by a lease or loan obligation." However, the agreement does not specify what falls within those infrastructure and asset options, nor does it distinguish between the two categories.

Will the Commonwealth be willing and able to hire a substantial number of new IT staff?

In 2006, more than 550 state IT staff became employees of Northrop Grumman, which presently has about 580 employees and contractors supporting VITA. To the extent the Commonwealth desires to in-source some or all IT services, it will need to hire the associated IT staff (potentially 550 or more employees or contractors). Using 2012 data on the average salary (\$44,149) of all state classified employees as a rough approximation, the cost to hire 550 employees could exceed \$24 million plus benefits. However, if the state lacks the funding needed to hire staff or otherwise elects not to do so, then the Commonwealth will need to continue obtaining IT services and personnel through one or more vendors. The agreement provides a key related option:

- Commonwealth May Hire Certain Northrop Grumman and Subcontractor Employees. The Commonwealth may make offers of employment to those

Northrop Grumman and subcontractor staff whose then-current job functions or positions are directly related to provision of infrastructure services. However, such offers must be made between the disentanglement commencement date and 90 days after expiration of the term (Currently, this time period would be from October 2018 until September 2019).

Prerequisite Planning and Scoping Activities Must Be Completed During McAuliffe Administration

In addition to ensuring policy questions are answered in a timely manner, VITA must successfully complete several other planning and scoping activities. These activities, which are prerequisites to competitive procurement of IT services after the end of the agreement, will allow development of recommendations regarding in-sourcing, out-sourcing, multi-sourcing, or partial in-sourcing (or combination thereof) of IT services. These activities will require VITA to use consulting support during a three-phase competitive process.

Commonwealth's options will be affected by ongoing changes in the provision and management of IT. Since the Northrop Grumman agreement was signed in 2005, several significant changes have occurred regarding the types of technologies used, the software licensing structure, the extent of liability for security breaches, the use of one versus multiple vendors, and other salient factors. The Commonwealth's ability to exercise its options, or pursue alternative paths, will depend upon how IT services continue to evolve over the next six years.

IT services already have changed significantly since 2005. The most recognizable changes involve the advent of cloud computing, virtualization, and mobile computing, such as the iPad's introduction in 2010. Changes have also occurred in the way IT services are managed by public and private organizations. A recent survey by the National Association of State Chief Information Officers indicates that a small number of states (including Virginia) already provide IT infrastructure services through a centralized model, but that most other states are actively consolidating their infrastructure and moving toward centralized oversight and service provisioning. However, these infrastructure services are provided through different means, including in-sourced and out-sourced delivery models. More broadly, public and private organizations are also exploring and adopting additional models, such as multi-sourcing (where multiple vendors are used to provide services) or partial in-sourcing (where the contracting body, instead of a vendor, performs service integration and planning activities). Texas and Georgia, for example, use a multi-sourcing approach.

Consulting support will be critical to identification and selection of the Commonwealth's options via a three-phase approach. VITA faces substantial staffing constraints in key subject areas, and also lacks specialized knowledge of current sourcing practices. Because of these constraints, VITA staff cannot fully evaluate how changes in the provision and management of IT have affected sourcing strategies and potential service delivery options. Consulting services will, therefore, be required to gather the Commonwealth's requirements, develop an IT

sourcing strategy, and develop potential options. These activities are projected to occur in three phases.

The first phase, which is projected to occur in FYs 2015-2016, will focus on (a) identification of formal specifications of the activities to be sourced, (b) development of an evaluation framework, and (c) an evaluation of market prices and other types of financial analysis. As part of these activities, consulting support will be used to assess available solutions; the benefits of each solution; the cost of each solution; the potential effect of each solution on stakeholders; and potential options for funding each solution. VITA has not yet obtained specific offers through a competitive procurement process, but based upon previous uses of consulting services for sourcing and negotiation support VITA estimates that approximately \$2.2 million in internal service funds will be required in FYs 2015-2016.

Second- and third-phase activities, which are projected to occur in FYs 2016-2018, will include development of solicitation documents, comparison of vendor offers, identification of potential IT infrastructure service providers, negotiation, and drawing up of contracts. Consulting support will also be required in these phases, but the costs will depend largely upon the outcome of the first phase activities and thus cannot be estimated at this time. These activities likely will conclude during calendar year 2018, in which approval for the future direction and specific options will be obtained from the 2018 session of the General Assembly and the new administration. Approval will be needed by that time to ensure the Commonwealth is prepared to exercise its options beginning in September 2018.

Conclusion

As the Commonwealth passes the mid point of the 13-year term of the Northrop Grumman agreement, the number of transformed agencies represents a substantial success. Now, careful consideration must be given to current and future options for IT infrastructure services. Presently, only three agencies have not completed transformation, and though each agency faces unique set of circumstances it is not clear when their transformation will be completed. VITA and Northrop Grumman will continue to discuss benchmarking efforts, and also the parties' larger relationship as part of the RPA. Additional steps may be required to ensure the fees paid and service levels received by the Commonwealth are reasonable, and that the Commonwealth's needs are met. Lastly, several potential options appear to be available to the Commonwealth once the term of Northrop Grumman agreement expires. The Commonwealth's ability to fully exercise those options depends upon how policymakers answer certain salient questions, and the extent to which these and other prerequisite activities are successfully completed in a timely manner.