

Virginia Information Technologies Agency



COMMONWEALTH OF VIRGINIA
VIRGINIA INFORMATION TECHNOLOGIES AGENCY (VITA)
SUPPLY CHAIN MANAGEMENT DIVISION
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REQUEST FOR INFORMATION (RFI) 2017-14
FOR:
SERVER, DATA CENTER, AND SECURITY SERVICES

Issue Date: September 29, 2016
Due Date/Time: October 21, 2016 @ 3:00 pm Eastern
Response Delivery Method: E-mail attachment to Single Point of Contact
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VITA is committed to increasing procurement opportunities for small, women-owned, and minority-owned (SWaM) businesses, strengthening the Commonwealth's overall economic growth through the development of its IT suppliers.

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1. INTRODUCTION

The intent of this Request for Information (RFI) is solely to gather information; it is not a formal procurement. Responding to the RFI is not a pre-requisite to submitting a proposal for any subsequent procurement. Respondents should not provide any confidential or proprietary information.

Ownership of all data, materials, and documentation originated and prepared for VITA pursuant to the RFI shall rest exclusively with VITA. All information provided to VITA as part of this RFI will not be publicly disclosed, but shall be subject to public inspection in accordance with the §2.2-4342 of the *Virginia Public Procurement Act* and the *Virginia Freedom of Information Act*.

A. IT Infrastructure Services Program (ITISP) Overview

This procurement event is a component in VITA's overall strategy to implement a new IT Infrastructure Services Program (ITISP). This program will position VITA to fulfill its vision to "deliver agile technology services at the speed of business" by better balancing the needs of the individual agencies and the enterprise in a multisupplier ecosystem. The ITISP is intended to accomplish the following:

- **Maintain and improve service quality.**
 - Develop the capability to address evolving agency needs and create opportunities to improve service performance without degrading service reliability, security, and quality.
- **Ensure cost competitiveness – both now and in the future.**
 - Structure service offerings so they can be more easily compared to market services at market rates; offer a menu of service options to customers.
- **Create a platform view of service delivery that is highly visible and accountable.**
 - Provide for Enterprise and Agency visibility of consumption, cost, performance, and the responsiveness of suppliers. Establish a governance structure and forums to promote stakeholder engagement and improve the balance of agencies and enterprise needs.

Procurement of new services that will transition the Commonwealth from a single supplier model to an integrated multisupplier model is occurring over three waves. VITA has begun implementing Wave 1 of this transition by awarding a contract for Messaging services in July 2016 and a contract for IBM Mainframe services in September 2016. Wave 2 of this transition begins with this Request for Proposal ("RFP") soliciting proposals for the services of a multisourcing service integrator (MSI). That procurement was released on September 29, 2016 under RFP# 2017-03. The Wave 2 procurements are also intended to include services for Server, Storage, Data Center LAN, Data Center Facilities, and Managed Security Services (abbreviated as "Server, DC, and Security").

Respondents to this RFI are encouraged to review the publicly available RFP# 2017-03 documents for additional context. Note also that there will be a Pre-Proposal Web Conference for the MSI RFP, scheduled for Tuesday, October 4th at 2 pm. Information to register for the conference is indicated in the RFP Instructions for RFP# 2017-03.

B. RFI Purpose

VITA has decided to accelerate its MSI implementation, such that the contract for RFP# 2017-03 is awarded while the other Wave 2 procurements are still underway. The initial focus on the MSI RFP allows additional time at the front-end of the timeline to gather further market research for Server, DC, and Security via this RFI. This RFI will allow VITA to improve the quality of the resultant RFP or RFPs to be released around the end of 2016.

Currently, VITA's Wave 2 internal RFP teams are structured around two separate potential RFPs: 1.) Server, Storage and Data Center Services and 2.) Managed Security Services. However, VITA is interested in identifying the most efficient demarcation or bundling of these services between RFPs. For example, perhaps it would be more efficient to separate the Data Center facilities from the other Server services; or perhaps it would be better to include some or all of the Security services with the Server RFP. VITA anticipates resolving these decisions, and other questions as detailed in the Section 5 (Questions) below, in part by considering feedback obtained from marketplace participants via this RFI.

The Commonwealth has the following goals for the procurements:

Server, Storage, and Data Center Services

- Assume all existing Services for Server, Storage, Data Center LAN, and Centralized Data Center facility currently provided to the Commonwealth via the Comprehensive Infrastructure Agreement (CIA) with Northrop Grumman.
- Transition to the next generation of delivery for Server, Storage, and Data Center services to VITA and Customers, taking advantage of the ever-changing technology landscape while decreasing costs to VITA and Customers.
- Provide compute, storage, and Data Center LAN services that are flexible, rapidly provisioned, cost effective, transparent, and elastic to meet VITA and Customer needs while preserving enterprise requirements such as security and compliance management.

Managed Security Services

- Replace the existing security services included within the Comprehensive Infrastructure Agreement (CIA) with Northrop Grumman.
- Support VITA's Commonwealth Security and Risk Management (CSRМ) directorate by acting as its operational "hands and feet":
 - Advising on risks and standards development
 - Assessing vulnerabilities and compliance (suppliers and agencies)
 - Provide security monitoring and integration tools across the environment
 - Respond to and address security risks and incidents
 - Provide tools and technologies to protect the environment from compromise
 - Provide security services that are adjustable to meet compliance needs of the Customer and adaptable to advancements in both security and technology industries
 - Establish, implement and maintain a secure enterprise information technology environment ensuring the confidentiality, integrity and availability of critical Commonwealth information and systems

- Provide VITA and its Customers with access to their data and metadata, in real-time

2. SUBMISSION LOGISTICS AND CONTACT INFORMATION

Issue Date:	September 29, 2016
Due Date / Time:	October 21, 2016 at 3:00 pm EST
Response Delivery Method:	E-mail attachment or CD sent to Single Point of Contact. Note: e-mail must be received by the due date and time; CD must be post-marked by the due date, but can be received later. E-mail attachments must be limited to 10 MB.
Single Point of Contact (SPOC):	Greg Searce
Telephone:	(804) 416-6166
E-mail Address:	gregory.searce@vita.virginia.gov
Mailing Address:	11751 Meadowville Lane, Chester, VA 23836
Pricing:	No pricing information should be submitted
Document Format:	Return this document, having populated Section 4 (Respondent Contact Information), Section 5 (Questions) below, and Section 6 (Feedback Regarding RFI Documents)
RFI Questions and Answers:	Suppliers may submit questions regarding this RFI at any time via e-mail to the SPOC.

3. OVERVIEW OF RFI DOCUMENTS

Within this RFI, VITA has chosen to release the following documents, which are drafts of some key documents anticipated for release in a final RFP or RFPs.

- Exhibit 2.1-a: Server, Storage, Data Center LAN Services
- Exhibit 2.1-b: Data Center Facilities Services
- Exhibit 2.1-c: Managed Security Services
- Exhibit 2.2: Cross-Functional Services
- Exhibit 3.1-a: Server, Storage, Data Center LAN, and Data Center Facilities SLA Matrix
- Exhibit 3.1-b: Managed Security SLA Matrix

- Exhibit 3.2-a: Server, Storage, Data Center LAN, and Data Center Facilities SLA Descriptions
- Exhibit 3.2-b: Managed Security SLA Descriptions
- Exhibit 4: Pricing and Financial Provisions
- Exhibit 4.1-a: Server, Storage, Data Center LAN, and Data Center Facilities Pricing and Volumes Matrix
- Exhibit 4.1-b: Managed Security Pricing and Volumes Matrix
- Exhibit 4.2-a: Server, Storage, Data Center LAN, and Data Center Facilities RU Definitions
- Exhibit 4.2-b: Managed Security RU Definitions
- Exhibit 4.4: Form of Invoice

4. RESPONDENT CONTACT INFORMATION

Please provide your contact information in the box below.

Contact Information	Enter your response here, enlarging the box as needed
Company Name	AIS Network
Company Mailing Address	PO Box 2082 Ashland, VA 23005
Company Website Address	www.aisn.net
Name of Contact Person	Jay Atkinson
Contact Person E-mail Address	Jay.atkinson@aisn.net
Contact Person Telephone #	703-304-1523

5. QUESTIONS

Please use the table to respond to the Commonwealth’s questions.

Ref#	Category	Question	Supplier Response
A.	Server/Storage Services		<p>We have used four labels to indicate the benefits the Commonwealth of Virginia can expect by adopting AIS Network’s responses. These are:</p> <ul style="list-style-type: none"> • Cost Avoidance (CA) – The recommendation is based on avoiding costs for the Commonwealth and the Agency customers. • Cost Transparency (CT) – The recommendation achieves detailed visibility of the usage and attendant costs. • Transitional Risk Mitigation (TRM) – These recommendations are specifically targeted at minimizing the risk of mitigation throughout the contract. • Usage Based Rates (UBR) – These recommendations achieve virtual need and usage based rates for the Commonwealth and Agency Customers.
Q1.	Server/Storage	The Commonwealth has upwards of 10 non-centralized Data Centers in Agency-operated buildings, primarily in the metro Richmond area. What are examples of Suppliers’ best practices in managing the Servers, Storage, Firewalls, and Data Center LANs in non-centralized (Agency) facilities?	<p>Benefits: CA</p> <p>Best practices for monitoring a non-centralized data center include implementation of remote monitoring of the data center from multiple devices, primarily the desktop personal computer (PC), laptop, and tablet. The devices should employ software that receives status and alert messages via text and email.</p> <p>AIS Network currently manages infrastructure in 4 different Data Centers, located in Chicago, Richmond and two locations in NoVA. How we do this is as follows:</p>

Ref#	Category	Question	Supplier Response
			<p>On the infrastructure side we rely on a blend of network providers for incoming network traffic that comes into our core routers, we peer with other providers such that we can turn on and off network providers as needed and required e.g. network outages, attacks, etc. This allows us to mitigate public internet issues and have some control over this for our customers. We also, where possible, use dark fiber between our data center locations so that we can quickly move traffic from one location to another, and maintain low latency between the data centers for management and data transfer on the networking side.</p> <p>On the physical side we have two factor authentication to enter the data center, and in the case of our Richmond location we have armed guards on duty, as well as perimeter fencing that is DoD rated to keep the bad guys out. Inside we have a cage environment with either the need for a key, or a passcode, after having to pass the security checks at the gate to the data center and the front door of the data center, plus multiple doors in between.</p> <p>The infrastructure we use to manage the hardware and systems is one of VPN's to get into the management network where we can log onto servers, network devices, routers, etc. in order to maintain the environment, but also to monitor it. We monitor both from the inside of our infrastructure as well as external checks. That infrastructure goes through multiple penetration checks and scans each year for security.</p> <p>We have a ticketing system where problems can be reported, and effectively managed by our personnel,</p>

Ref#	Category	Question	Supplier Response
			which also allows us to track new installs, and customer orders / requests.
Q2.	Server/Storage	What does the Supplier recommend for the length of the contract for Server, Storage, and Data Center Services? Please describe benefits and trade-offs.	<p>Benefits: CA</p> <p>The AIS Network team recommends server, storage and data center contracts can be done in three-year increments. Separating these items from a full data center facility, The AIS Network team can apply narrow focus to implementing the servers and storage for specialized applications. AIS Network finds no impacts/tradeoffs in a three (3) year data center service. The AIS Network team determined that we can develop a business strategy for these services within the three-year window that can be built upon after the contract has ended.</p>
Q3.	Data Center	What do you recommend for the length of the contract for the Data Center Facility for this type of environment?	<p>Benefits: CA</p> <p>The AIS Network team recommends a five-year contract for the full data center. The term for servicing data centers is generally longer due to the maturity of the services involved. The longer term will allow the service provider to benchmark the current environment, note any issues and procure and install new equipment. At this point, the longer term allows establishment of a new or updated benchmarking process tailored to the ten (10) data center's specific needs. Finally, the term would allow the time required for transformation of the current Data Center to a cloud solution using a careful, methodical, phased approach.</p>
Q4.	Server/Storage	What does the Supplier recommend for technology refresh rate for the different types of Devices in VITA's environment? Is there an impact on the length of the services contract?	<p>Benefits: CA, CT</p> <p>Timely updates and proper maintenance practices with virtualization software enables IT professionals</p>

Ref#	Category	Question	Supplier Response
			to extend device life longer versus the so-called standard refresh rate of three to five years. Your provider should perform yearly reviews to determine if a need even exists to refresh. The reviews can identify where the budget really needs to be focused instead of replacing equipment on a fixed timeline.
Q5.	Server/Storage	The Commonwealth is interested in a separate hardware charge in the Server RUs to account for the initial capital outlay for physical servers. Is there a better way to represent the cost differences and hardware refresh cycle in the Server RU structure?	<p>Benefits: CA</p> <p>A method for price structure is identifying what software and applications the virtual machine (VM) is being purposed for. Different operating systems on the servers will produce different cost estimates. With VMs, there is a formula to charge for each CPU and each gigabyte (GB) of memory. Included is the charge per rack unit (RU). For example, the charge per RU includes the cost of each rack; so, if a 42U rack costs \$400, a 2RU server would cost \$19 however and the price would be further divided based on how many VMs the physical server could run.</p>
Q6.	Server/Storage	The Commonwealth is proposing tiering of services for Server and Storage in an attempt to align costs with availability and performance. Based on your experience, do these tiers of service have any challenges in developing a solution? Do you have experience with these service tiering model? Do you have any recommendations or enhancements for the Commonwealth to consider?	<p>Benefits: CT</p> <p>To employ a storage tiered solution, The AIS Network team recommends an automated process to accommodate for customer-related workload spikes. Automated solutions are typically more efficient than external software tiering solutions. The automated solution creates smaller block segments which provide more granularities versus external block- or file-based systems resulting in a decreased likelihood of unnecessarily moving data. Automated solutions also move segments without impacting the entire network.</p>

Ref#	Category	Question	Supplier Response
Q7.	Server/Storage	The Commonwealth currently spreads costs across a very simple RU model. Do you have an enhanced RU model that could offer a larger variety of services while minimizing the RUs and their complexity?	<p>Benefits: CT</p> <p>The AIS Network team generally uses RU type as one of several factors in calculating costs. The AIS Network team would develop a formula based on the customer's needs that include CPU, memory, power and cooling and an RU that efficiently and effectively meets those needs. Then, The AIS Network team typically selects the appropriate model that offers myriad services based on industry averages for the device that the VM would be housed on. The AIS Network team makes every effort to minimize the RU complexity which also will keep staff training and maintenance costs low.</p>
Q8.	Server/Storage	The Commonwealth is including Bronze thru Platinum service levels for Server as examples of service categories. What would be required to implement this model in the Commonwealth?	<p>Benefits: CA, CT</p> <p>To implement Bronze through Platinum levels, The AIS Network team requires a solution that supports a four-tier approach. The software required to regulate these services, would include a capability to execute automated tiering and tracking when data is placed in higher tiers. With the different service levels, the required software also needs to allow various customers and users to momentarily "spike" or obtain maximum use at little to no cost.</p>
Q9.	Server/Storage	Do you see a better way to bundle or spilt the services we are requesting, in order to more effectively integrate with other towers (including MSI), and obtain more flexibility in the Commonwealth's IT environment while maintaining appropriate Governance and security?	<p>Benefits: CA, UBR</p> <p>The AIS Network team recommends bundling the services based on administrative ease of use and billing. Customers of the Commonwealth would receive a bundle that contains CPU, memory storage and network services. The AIS Network team would recommend a solution that allows each customer to reside in a bundled resource pool that would be isolated from other tenants on the hardware. This technique allows for proper oversight and security measures but would also allow tenants to have their</p>

Ref#	Category	Question	Supplier Response
			own firewalls and rules to protect them from other customers.
Q10.	Server/Storage	Are their new Storage offerings, like Object Based Storage or predictive storage, that the Commonwealth should include in storage or enhanced services? How do you offer and charge for virtual storage?	<p>Benefits: CA, CT</p> <p>The AIS Network team recommends new software that allows for Object Based Storage. Object Based Storage allows for the following:</p> <ul style="list-style-type: none"> • Aligns storage costs with value of data. Object Based storage is based on a single flat address space that allows for routing of data to proper storage systems. The method allows the Commonwealth to be flexible with the storage solution and offerings with the customers. • Better data availability than Redundant Array of Independent Disks (RAID). With this type of configured storage, content is replicated so that a minimum of two replicas assure continuous data availability. It allows the Commonwealth to offer and charge for a reliable backup and recovery solution. • The ability to provide unlimited capacity and scalability. In an object oriented storage system, an object location is not specified in the same way as a mapped file. This gives the Commonwealth the capability to scale the storage solution without traditional limits on the number of files or size of files. <p>The AIS Network team would recommend offering virtual storage in storage pools with the customer selecting the size and the performance level (Bronze, Silver, Gold, Platinum). The customer should also retain the option for automatic tiering on their pool(s) for spikes in the workload. Prices are based on size, performance level the customer selects whether automatic, manual or no tiering options.</p>

Ref#	Category	Question	Supplier Response
Q11.	Server/Storage	The Commonwealth is interested in ensuring it provides optimal storage performance and availability for VITA and VITA's Customers. How do you propose to provide and measure this performance?	<p>Benefits: CA, UBR</p> <p>The AIS Network team has vast experience in this area and the first decision is to identify the storage system in place. All storage providers have their own solution for providing this information however, as the Data Center matures, it is feasible that the storage provider will change. The AIS Network team would recommend a solution such as APTARE storage console which has the ability to provide IT analytics regardless of the underneath hardware architecture.</p>
Q12.	Server/Storage	The Commonwealth has traditional x86 virtual servers, but it is also interested in the capabilities of a private cloud. Could they be combined or left separate? Please describe how this could be accomplished most effectively.	<p>Benefits: CA, UBR, TRM</p> <p>We use VMWare as the Backbone of our cloud offering, along with HyperV / Azure. But to specifically answer this, we would use VMWare's capability to move work loads into AWS / AIR in order to expand out into the public cloud when desired or the load requires that more capacity than what is currently in the AIS Cloud is needed.</p> <p>VMWare allows us to manage that load and allow a set of automatic parameters to increase or decrease the workload and where those resources are obtained.</p> <p>The X86 virtual servers could be utilized for customers that have a need to run legacy applications as it is difficult to perform application virtualization on legacy applications. It could also be used to provide service for customers who opt for a less expensive version. The option could also be used for non-critical or non-essential systems versus the more expensive alternative. X86 servers are better left separated so the Commonwealth can better pool their capabilities as they would from new server models.</p>

Ref#	Category	Question	Supplier Response
Q13.	Server/Storage	How does Database as a Service make sense for an Enterprise like the Commonwealth? Do you have any recommendations for how to charge for enhanced Database services (i.e., Development DBA)?	<p>Benefits: CA, CT, UBR, TRM</p> <p>Offering Database As A Service (DaaS) is a critical benefit that the Commonwealth should offer. DaaS will offer the Commonwealth the following benefits:</p> <ul style="list-style-type: none"> • Shifts capital expense for software and hardware to an operating expense cost • Allows for on-demand and self service provisioning of database services. • Will allow the end user to leverage existing hardware through automated management regardless of the configuration – virtualized, non-virtualized and clustered • Allows for commonwealth customers to free up personnel to focus on administrative efforts of databases and not the underlying hardware system administrative function. The charging for these services could be based on the following criteria: What database software; number of nodes, automation the client needs and number of and type of backup the clients require. <p>As an example, Azure SQL DB provides DaaS, with multiple tier options. Azure SQL Database is a managed infrastructure with automated patching, backups, disaster recovery, high availability, automatic database performance tuning and monitoring to detect security threats with real-time alerts and audit logging freeing DBA resources to focus on design and code. Azure SQL Database also allows for quick database scaling in seconds by eliminating the need to acquire additional servers when applications need more resources and eliminates idle hardware when application load is reduced. In addition, With System Center and Windows Azure Pack DaaS can be deployed on-prem</p>

Ref#	Category	Question	Supplier Response
			using your hardware while still providing the same function.
Q14.	Server/Storage	The Commonwealth wants to provide cost effective solutions to VITA and the Agencies. What do you describe as the key cost and value drivers that would help the Commonwealth offer services that are not cost prohibitive to deliver? Do you see any requirements in the description of services in this RFI that would cost more to meet than the business value they provide?	<p>Benefits: CA, TRM</p> <p>The AIS Network team recommends a phased approach. The AIS Network team employs subject matter experts (SMEs) and leverages newer technology to implement backup services. The backup service would allow the service provider to then employ a team of architects to design and build new services – such as cloud based – that could then be tailored to small and medium sized solutions, to ensure that services do not become cost prohibitive. As the Commonwealth realizes updated revenue streams, platforms and other cloud services could be terminated due to higher costs.</p>
Q15.	Security	The Commonwealth is interested in an Enterprise Key Management System for compliance and security. How do you propose the Commonwealth request Key Management services?	<p>Benefits: CA, TRM</p> <p>To implement Key Management Service, The AIS Network team would propose a layered approach using our standardized best practices that include:</p> <ul style="list-style-type: none"> • Identifying reliable applications • Implementing physical security techniques & procedures • Restricting security functions for hardware and software and implement physical security protocols • Implement one of The AIS Network team’s standard password policies including those compartmented for access-only • Isolate portions of the network based on information type and other parameters <p>Use multiple types of software that are complimentary as well as serving as backup to protect the infrastructure. This also extends to end device equipment.</p>

Ref#	Category	Question	Supplier Response
			<p>One potential to do this would be Azure Key Vault. Secure key management is essential to protecting data in the cloud. With Azure Key Vault, you can encrypt keys and small secrets like passwords using keys stored in hardware security modules (HSMs). For added assurance, you can import or generate keys in HSMs. If you choose to do this, Microsoft will process your keys in FIPS 140-2 Level 2 validated HSMs (hardware and firmware). Key Vault is designed so that Microsoft does not see or extract your keys. Monitor and audit key use with Azure logging—pipe logs into Azure HDInsight or your SIEM for additional analysis and threat detection.</p>
Q16.	MSI	Identity and Access Management (IAM) services and the systems supporting those functions are currently split between multiple providers. How do you propose bringing these services together to provide a single integrated service?	<p>Benefits: TRM</p> <p>The AIS Network team would deploy an integrated Identity and Access Management (IAM) solution for data center security. The AIS Network team administrator SMEs would use standard The AIS Network team practices to authenticate users and protect the data center.</p> <p>One way this could be done is through the Azure Cloud. Identity and Access management are key pillars of the Azure cloud and substantially differentiate the Microsoft platform from our competitors. In fact, the capabilities of Azure Active Directory (AAD) are keys to providing answers to the questions below. AAD supports open standards such as OpenID Connect, OAuth 2.0, SAML 2.0 for sign in REST and OData v3 for directory access. Additionally, Microsoft ships libraries for .Net, JavaScript, iOS, Android, Cordova, Xamarin, Node.js, Java, Ruby, and Python. This means the Commonwealth can provide an identity that crosses platform boundaries.</p>

Ref#	Category	Question	Supplier Response
			<p>One additional consideration to note is that AAD identities can be consumed by on-premises application's hosted in the Commonwealth's data centers. And features such as multi-factor authentication can be activated quickly. New features such as conditional access control can allow the Commonwealth to alter access to applications based upon changing conditions. For example; a user is required to use multi-factor authentication if he/she is logging in from outside the Commonwealth or from another country or perhaps their account can be disabled if an attempt to login is sourced from Tor network.</p> <p>In the market Active Directory is the authoritative source for identity and when paired with Azure Active Directory for Single Sign on to on premise and SaaS applications your organization can support SSO for over 2000 non Microsoft SaaS solutions. Active Directory Federation services should be used to federate with any other Web or client apps supporting SAML and when paired with Microsoft Identity Manager for identity provisioning, de-provisioning, and synchronization to disparate directories and identity stores the Commonwealth would have full IDaaS solution. When paired with Azure DNS and Azure Domain Services you can also improve authentication of Cloud applications.</p>
Q17.	MSI	The Commonwealth has defined the cross-functional requirements in Exhibit 2.2. Do you have any comments in the structure and handoffs identified in this document? Do you have any prior experience working with MSIs? Do you have any recommendations regarding the approach for how the MSI should interact with the other suppliers?	<p>Benefits: CT, UBR</p> <p>The AIS Network team has participated in various public sector projects that have utilized Information Technology Infrastructure Library (ITIL) practices for delivering IT services that match specific business needs. The AIS Network team has ITIL-certified</p>

Ref#	Category	Question	Supplier Response
			<p>personnel on staff and employed in the field. The AIS Network team has experience with multiple methods of administrating contract vehicles including with Multi-Sourcing Integrators (MSI).</p>
Q18.	MSI	<p>Do you see any benefits or challenges in requiring the Data Center facility provider to also be responsible for providing common operating monitoring groups in the same solution (e.g., CMOC, ITOC, SOC, NOC)?</p>	<p>Benefits: CT Data center monitoring has made advancements over the last several years. The major challenges are usually complexity, too narrow focus on select devices, and cost. The AIS Network team would collaborate with the data center's facility provider to ensure the solution meets all of the Commonwealth's needs.</p> <p>One solution could be to implement Microsoft's comprehensive operations management tools that can help monitor and automate both public and private clouds as well as provide logs, these logs would be used as a centralized monitoring tool for all Commonwealth resources. In addition, the Microsoft Operations Management platform can be used to provide deep insights into everything from Bare Metal to OS, and 3rd party services which integrate with our management platform.</p>
Q19.	MSI	<p>The Commonwealth currently has a single traditional DR solution that requires the entire backup Data Center to be failed over. There is a desire to move to a more flexible solution that allows single Agencies or even applications to be failed over individually. This process requires design, development, operations, testing, and coordination. What role should VITA's MSI should play in this effort in relation with the Server Services provider?</p>	<p>Benefits: CT, TRM VITA's MSI should partner with the Server services delivery partner to ensure that the infrastructure they deliver meets the minimum security requirements. In addition, both the MSI and Server partner should use the same toolset to identify security risks and implement remediation technologies and policies. One potential tool could be Microsoft Azure Site recovery which can provide the ability to protect individual applications by forming protection groups. You can then fail-over to Azure or to another on-perm location. Protection is</p>

Ref#	Category	Question	Supplier Response
			configured on a per OSE basis, however the protection groups can be everything from individual OSEs to large multi-tier applications and/or entire Data Centers.
Q20.	Data Center	The Commonwealth is interested in Multi-site High Availability and Disaster Recovery Services. At a high-level, what do you recommend on the number and locations of centralized Data Centers the Commonwealth should utilize for that purpose? Any tradeoffs?	<p>Benefits: CT</p> <p>The AIS Network team would recommend a three data center (3DC) DR technique. Using the 3DC technique has a variety of benefits including low probability of data loss using The AIS Network team's employment techniques. When designing multiple data center replication architecture, The AIS Network team recognizes some limitations and is able to mitigate and in some cases leverage the limitations to develop synchronous, asynchronous and multi target recovery points.</p>
Q21.	Migration	Suppliers will be required to provide an implantation plan to specify how they will take over responsibility for the existing environment. The Commonwealth is also interested in recommendations with regard to how the Commonwealth could migrate or transform to new Service offerings. What do you recommend for this migration plan?	<p>Benefits: TRM</p> <p>We would recommend the following procedure for migrating and preparing a data center for new service offerings:</p> <ul style="list-style-type: none"> • Utilize the request for proposal (RFP) process to identify vendors and their data center plan for the Commonwealth. • The AIS Network team also recommends that VITA should identify current whitespace. • The AIS Network team recommends VITA take an inventory of the current environment. <p>Some parts of the migration could be accomplished using a tool such as Site Recovery. The migration plan consists of establishing replication between the source and target, once completed a planned failover is initiated, and once the target comes online, protection is disabled.</p>

<p>Q22.</p>	<p>Enhanced Services</p>	<p>The Commonwealth is interested in receiving proposals to include new enhanced services, (e.g., Cloud, Analytics, Managed File Transfer) Can you recommend any other such enhanced services the Commonwealth should also consider including at the moment? How would you recommend these services be delivered?</p>	<p>Benefits: UBR, TRM</p> <p>The AIS Network team recommends focusing on the cloud needs for the appropriate organization size. The AIS Network team would recommend:</p> <ul style="list-style-type: none"> • VITA could offer, as an example, the Asana Collaboration tool to assist businesses track work tasks for their company • Using security and network monitoring standards with credentialed data center staff. VITA should be able to offer this as an add-on as it would have on-site expertise. • Many small organizations have no desire to staff personnel to manage payroll or contract management. Having an existing off-the-shelf solution such as Intuit QuickBooks would provide a capability VITA system administrators can use without specialized knowledge. <p>Microsoft and other vendors have expanded their offerings to attract organizations of differing sizes. VITA could use an existing system administrator to maintain these applications with the only cost point being subscription fees, either monthly or annual.</p> <p>Other technologies to be considered include: IoT, Big Data, Advanced Analytics, Media, Machine Learning, CDN. These services are delivered as Platform as a Service, and additional via MicroServices delivery models which provide greater agility and cost efficiencies compared to traditional infrastructure management.</p> <p>Tools employed to deliver these services could include BCM’s Control-M Workload Automation, with features including Control-M Workload Change Manager, Managed File Transfer, Self Service,</p>
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			<p>Automation API, Workload Archiving, and Amazon Marketplace offering.</p> <p>Control-M Managed File Transfer securely automates file transfers from a central interface that provides convenience, visibility, and control. Define file transfers as an integral business step, gain instant visibility into the status of your transfers, and eliminate lag time between file transfers and subsequent processing steps.</p> <p>Control-M Self Service provides stakeholders with real-time visibility into workload status and scheduling updates. Customers have the ability to manage batch servers anytime from anywhere via your mobile device (ex: iphone, Android), free up IT staff and help users make decisions and act on them in real time.</p> <p>The Control-M Automation API enables developers and DevOps engineers to use self-service workflow automation to deliver applications faster; support continuous delivery with embedded workflow automation -- even Big Data projects.</p> <p>Use Control-M Workload Archiving for fast, easy access to your historical workload data needed to prevent service disruptions and meet compliance requirements. A simple graphical user interface makes it fast and easy to establish and automate policies for retaining specific types of data for the extent of its legal life.</p>
Q23.	Enhanced Services	As the technology landscape changes in the Commonwealth's environment, could you describe other enhanced services that VITA and VITA Customers should consider in the future?	<p>Benefits: TRM</p> <p>VITA should be looking toward compliance, and security, as well as a hybrid-cloud model and focus on</p>

			<p>optimizing, and automating, the service desk. The Commonwealth has dozens of regulatory standards they must abide by to provide the services necessary for its citizens. Without managing the compliance of platforms, including database and applications, the Commonwealth can be exposing highly sensitive data to potential risk. Providing a central standard for all regulatory and operational compliance standards can safeguard the data and provide a framework for reducing risk going into the future. In parallel, by properly managing, modeling and placing data in a hybrid-cloud, it further reduces risk, while decreasing costs. Finally, through automation, a service desk can not only increase effectiveness and customer satisfaction, and reduce costs, but also reduce exposure to risk through social engineering and human error.</p> <p>It is important for VITA is to ensure the underlying equipment is ready for any trend and it avoids purchasing products and software that would force VITA into vendor lock in. For services to focus on for the future, The AIS Network team would expand offerings targeted to VITA's needs as VITA attempts to expand and target larger businesses.</p> <p>AIS Network believes the Commonwealth should consider emerging technologies such as Azure so they can provide the ability to host relational database products in VMs including SQL Server, IBM DB2, and Oracle database servers. In addition, Microsoft's a PaaS offering SQL Database offers a low administrative overhead of SQL Server in the cloud with automated backup and replication options and almost full compatibility with the on premises version of SQL Server. SQL Data Warehouse provides a PaaS data warehouse offering which offers flexible</p>
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			compute options when are query or processing step requires additional horsepower for a point in time to execute analytics. Additional big data processing options are available with HDInsight as a managed version of Hadoop, Azure Data Lake as an infinitely large data store for big data, and the Power BI and Cortana Analytics Suite for processing, analyzing, and visually enterprise datasets without having to be a data scientist. these technologies support the aforementioned emerging technologies.
Q24.	Enhanced Services	What would you propose as a good business case for virtualizing the desktop (offering VDI)?	<p>Benefits: CA</p> <p>The business case for VDI is the following:</p> <ul style="list-style-type: none"> • Multiple drivers and software and hardware configurations will diminish OS management costs. • Troubleshooting problems become easier due a single VDI image. • The AIS Network team would secure the data by using standard policies and access procedures that limit user interaction. • The AIS Network team would limit expensive desktop upgrades by increasing user device life cycle to 5 to 7 years versus the current standard of 3 to 5 years.
Q25.	Data Center LAN	What do you recommend as the best demarcation point between the Data Center LAN and the Network or WAN? The Commonwealth wants to make the cleanest scope separation for a future WAN Network RFP.	<p>Benefits: CA</p> <p>AISN Typical best practices would put the demarcation point for these services at the firewall level if possible. All internal LAN applications and servers should be “behind” the firewall with only specific ports open to external users across a WAN. Additionally, many organizations have moved towards dark fiber or a Layer 2 solution to keep as much of the WAN network private as possible.</p> <p>The AIS Network Team would work with the MSI to ensure the wide area network (WAN) providers</p>

			<p>provide the datacenter with reliable connections. Our administrators can deploy techniques to convert data and physical protocols to equal the business requirements of the data center. The main advantages to VITA is the datacenter will house less vendor equipment resulting in smaller footprint and lower power requirements.</p>
Q26.	Data Center LAN	<p>In the current RFI, the Commonwealth has bundled Data Center LAN services (e.g., switching, routing, load balancing and firewall) with Server and Storage services. Do you find any challenges, issues, or concerns with this approach and why? Any recommendations?</p>	<p>Benefits: CA, CT Bundling these services is not a major problem as long as there is a clear distinction between physical components and very tightly managed permissions and access lists. Typically, hardware is more efficient when interoperated with like hardware so there are strategic advantages to using one brand and vendor. However, regular audits and very clear processes for making changes are necessary to ensure optimal environment performance and risk mitigation.</p>
Q27.	Data Center LAN	<p>The Commonwealth did not bundle Data Center LAN services (e.g., switching, routing, load balancing and firewall) with the Data Center Facility services (e.g., HVAC, power, raised floor). Do you believe this is the correct approach? Do you have any recommendations?</p>	<p>Benefits: CT We recommend bundling data center local area network (LAN) services. This would ensure VITA has identified all costs of the data center, including facility upgrades and KSH would work VITA to develop a formula to share costs equally among data center tenants.</p> <p>This represents best practices. Typically, Data Center facilities are very focused on the mechanical and electrical portions of the facility while the MSP is focused on the network infrastructure. This creates a check and balance to also ensure that there are proper certifications at each level to support the hardware. Also many facilities that do offer some limited “managed services” are not certified or experts on a particular clients gear and can cause harm if they overreach in terms of addressing ticket issues. It is also important to note that utilizing</p>

			<p>“managed services” from a facility is typically far more expensive than utilizing an MSP for those services.</p>
Q28.	Data Center LAN	<p>The Commonwealth is considering decoupling the Data Center Facility services from the Server, Storage, and Data Center LAN services. What do you think of this approach? What do you think are the advantages, disadvantages and tradeoffs of splitting the facility services out versus coupling these services with Server, Storage, Data Center LAN?</p>	<p>Benefits: CT Best practices, specifically the OSI model, would agree with this approach. Typically, you see a natural segregation between network components and server/application components. However, over the last several years there has been a blurring of these lines across the industry as more managed service providers have gone further up the layers of the Data Center model providing a benefit to working with a well-qualified firm that can provide support across all sectors.</p> <p>By decoupling Data Center Facility services pricing schemes become granular. The AIS Network team recommends that all costs are included so that upgrades to the Data Center have a dedicated source of funds when the infrastructure needs improvements. The AIS Network team would ensure each item in the data center has a line item that is assessed a price for accounting considerations.</p>
Q29.	Data Center LAN	<p>Supplier is expected to provide centralized Data Center LAN services. Should LANs in non-centralized Data Centers be part of the scope for Data Center LAN services or bid as part of Network/WAN in a future procurement? What would be the pros/cons and tradeoffs?</p>	<p>Benefits: CA The AIS Network team recommends that LANs in non-centralized Data Centers be part of the scope for Data Center LAN services. This ensures VITA has one (1) point of contact for collaborating with a vendor for data center operations.</p> <p>The AIS Network Team will consider providing Data Center LAN resources as integrated into the Azure fabric, which eliminates the need for separate procurement of those resources.</p>

			<p>We think about our network in three major components—inside the Data Center, between our Data Centers and edge nodes, and our geographic reach throughout the internet ecosystem. Inside our Data Centers, we connect more than 1 million servers to the network fabric, which contains the routers, load balancing, firewalls, Domain Name Service (DNS) servers, and many other services. The Data Center fabric then connects to the core backbone and our inter-Data Center fabric. At the physical layer, Microsoft invests globally in fiber assets to insure our ability to continuously scale our bandwidth. Our network consists of thousands of 10 and 100 Gb/s links allowing customer traffic to ingress and egress Microsoft’s Data Centers, as well as supporting inter-Data Center traffic for applications such as data replication for disaster recovery.</p>
<p>Q30.</p>	<p>Data Center LAN</p>	<p>If the solution includes new Data Centers, who should provision and manage the network connections between the Data Center locations? Should it be the Network Provider, the Data Center Provider or the Server, Storage, Data Center LAN Provider?</p>	<p>Benefits: CA The AIS Network team recommends that as new data centers come online, it should be a joint effort between the Network Provider, Data Center Provider and Data Center LAN provider. By leaving it up to a single provider, VITA assumes the risk of less than ideal configuration for the provisioning and management of network connections.</p> <p>The Data Center provider will most likely be in charge of interconnect with the carriers. The network provider is most likely responsible for routing tables and firewall routing and rules and lastly the Data Center LAN provider is most likely responsible for Vlan tagging and utilization. Again it is possible one well qualified firm may provide all of the required services.</p> <p>It also depends greatly on the location and if the new location is already in service as a data center. Most</p>

			data centers currently operating have multiple carriers already demarked inside the building. AIS would then cross connect to those vendors and blend their network at the core router.
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<p>Q31.</p>	<p>Data Center</p>	<p>How does the Supplier propose to migrate Server, Storage, Data Center LAN services out of the CESC Data Center by June 2019 or earlier? Describe how the Supplier would seamlessly migrate out of CESC like-for-like, transform to new services, or a combination of the two? What are the recommended approaches?</p>	<p>Benefits: CA, TRM</p> <p>This type of large migration requires a multi stage approach. This includes:</p> <ol style="list-style-type: none"> 1. Current State Analysis <ol style="list-style-type: none"> a) Complete application inventory b) Topography of interdependencies (applications, servers, storage etc...) 2. Data Center Move Strategy <ol style="list-style-type: none"> a) Develop the strategy b) Assign applications c) Utilize Tools d) Virtualization strategy 3. Performance Benchmarking <ol style="list-style-type: none"> a) Establish benchmarks b) Document extensively c) Minimize post move risks 4. Develop clear project management 5. Data Center move execution <ol style="list-style-type: none"> a) Using a preferred and commonly accepted methodology b) Leverage only experienced experts c) Provide real time updates through a commonly accessible tracking system 6. Post Move Verification of Success <ol style="list-style-type: none"> a) Verified by stakeholders in addition to move team <p>For the physical move, it is always recommended to use a certified Data Center moving company with the proper certifications and insurance to cover any catastrophic occurrence.</p> <p>As an example, depending on the approach decided on, utilizing technologies such as BMC’s Bladologic Server Automation and Cloud Lifecycle Manager, the Commonwealth can migrate from multiple data centers to a hybrid-cloud model through</p>
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			redeployment of resources, resulting in little impact and disruption to citizen-facing business and no loss of revenue. The Commonwealth can create baselines based on the current running state of systems in the existing Data Center, and migrate using those baselines to the new cloud-based environment.
Q32.	Cloud Services	The Commonwealth is interested in a solution that integrates traditional hosting services with new private, community, and public cloud offerings. How do you propose integrating these services?	<p>Benefits: CA</p> <p>One solution would be to use a Cloud Management Platform solution, such as BMC's Cloud Lifecycle Manager, that combines private, community and public cloud offerings in a way that allows for the Commonwealth to be the broker to internal agencies. Presenting the offerings to the agencies and allowing for intelligent placement based on data-type and user roles/personas will protect sensitive information, reducing risk, while keeping costs low through marketplace competition and economies of scale.</p>
Q33.	Cloud Services	What would be the best practice with regard to Suppliers owning the cloud contracts and potentially transferring that contract to the Commonwealth? Should the Commonwealth own that contract outright? Are there any other alternatives to be considered?	<p>Benefits: CA</p> <p>The AIS Network team's best practice would be that VITA owns all contracts from the outset. This ensures that VITA will be the only decision maker when it comes to contracts with customers. This also ensures that suppliers can focus on only working towards VITA's vision for providing data center services. The AIS Network team does not believe any alternatives need to be researched.</p>
Q34.	Cloud Services	When the Commonwealth buys cloud services offerings how do you propose to identify where the data and services are located?	<p>Benefits: CA</p> <p>VITA should determine the data classification of the placed data through deterministic algorithms (personas: i.e., is this person a developer? Architect? Risk manager? What type of data do they have access to?) and interview the requester of the service. When the data classification determination has been made, using the intelligent placement capabilities in a Cloud Management Platform like Cloud Lifecycle Manager, the Commonwealth should be able to recommend a</p>

			<p>smart placement of the compute resources based on Commonwealth data protection policies.</p> <p>The location of data and services is controlled by the Commonwealth. AIS Network has multiple Data Center facilities in the Commonwealth of Virginia, and can thus ensure your data and your backup sites are in Virginia. US and in Microsoft's Government Cloud environment, the data and services only reside where the Commonwealth places them.</p> <p>Additionally, Azure has multiple Data Center facilities in the US and in Microsoft's Government Cloud environment, the data and services only reside where the Commonwealth places them.</p>
B. Financial/Server Storage			
Q35.	Pricing Structure	<p>The Commonwealth is interested in creating the best possible pricing structure for the Services. In light of that fact, Supplier is invited to both comment on the structure described in Exhibit 4.1 and 4.2, and to propose an alternate pricing structure if they believe that it will better serve the interests of both parties.</p> <p>The Commonwealth will contemplate any proposed pricing structure along five dimensions:</p> <ol style="list-style-type: none"> 1. Predictable: To the greatest extent possible, customers should be able to forecast charges ahead of time; changes in pricing that occur over time should not be a surprise. 2. Manageable: The pricing should not be so complex that it is needlessly difficult to administer. If quantities of work or equipment in the environment must be measured, then those quantities should be as easy and transparent as possible to measure. 3. Fair: The service pricing must be a reasonable proxy for a services provider's underlying costs and should adequately recover those costs. Additionally, to the 	To Be Addressed in the AIS Network team's proposal response to the RFP(s).

		<p>extent possible, the party that causes any incremental cost should bear that cost.</p> <p>4. Incentives: All pricing structures will incentivize certain behaviors and discourage others. The goals of the sourcing program must be kept in mind when considering the behaviors that might be driven by a pricing structure. For example, a goal to encourage server consolidation might include reduced cost at a centralized data center.</p> <p>5. Flexible: As consumption moves up and down, the charges should also adjust. Technology is an evolving industry, and the ability to turn down an old service to turn up a new service is one of the benefits of an efficient IT sourcing agreement. Such adjustments may include minor volume changes month to month, significant scope additions, reductions, or terminations, and ability of large service providers to re-deploy investments.</p>	
Q36.	Inventory and Volume Collection	<p>The Commonwealth is interested in introducing new Resource Units that do not exist in the current contract; in order to fairly compensate Supplier for service delivered, and support the other goals described in question 36, Supplier is asked to describe their experience and approach to collecting and verifying volumes both before and after contract signing, and the approaches they use to adjusting financials in the event that the initial count is incorrect. For example, today database support is provided by the Supplier, but is not separately billable. The Commonwealth sees an advantage to separating out database support and making it a separate chargeable unit, how would the service provider collect and verify the volumes to support this chargeable unit?</p>	To Be Addressed in the AIS Network team’s proposal response to the RFP(s).

Q37.	Asset Ownership	The Commonwealth consumes certain services today which are underpinned by a set of assets (servers, firewalls, etc.). The Commonwealth (or their designee) has the right to acquire these assets. The Commonwealth has a desire to consume services; rather than own assets, and envisions Supplier acquiring these assets and using them to provide services back to the commonwealth. Please describe experiences acquiring assets from an incumbent, and also describe your recommend financial treatment of their cost recovery for these assets.	To Be Addressed in the AIS Network team’s proposal response to the RFP(s).
C. Managed Security			
Q38.	Security	The Commonwealth’s Managed Security description of services includes all the required scope bundled for a single experienced Security Supplier. Do you see any challenges or issues with this bundled model?	<p>Benefits: CT, TRM There should be no issue with a single provider delivering the Security services. In the event the Commonwealth decides to split the services up among several service providers, the Commonwealth will need to ensure that one plan is created and that all suppliers are on the same page following the same rules at each location.</p>
Q39.	Security	Do have any concerns or recommendations regarding how to scale Managed Security Services to organizations of the size and complexity of the Commonwealth?	<p>Benefits: CA, TRM The AIS Network team has experience with designing and implementing large scale Security Support Services.</p> <p>Managed Security is often reactive in many environments. Instead of looking ahead and focusing on possible growth and obstacles, teams are often wrapped up in reacting to issues as they occur. Many problems that could have been avoided instead become major incidents.</p> <p>Documentation is vital to any network- but especially one as large and complex as the Commonwealth- and should be kept up-to-date and be “living documents” that grow and change over time to remain relevant in an ever changing environment.</p>

			Communication and the hierarchy of command are vital in a large, capacious campus.
Q40.	Security	Can you provide examples of comparable environments where you offer security services similar to those required by the Commonwealth?	We have had many customers with environments and requirements similar to those described in this RFI.
Q41.	Security	Have you supported Managed Security services in distributed environments - both physical and virtual including on premise and off premise implementations?	The AIS Network team has supported Managed Security Services in a broad variety of environments providing both physical and virtual solutions. We have experience with sites, co-op sites, remote locations, remote support technicians and ensuring that all connections meet all needs, requirements and security policies.
Q42.	Security	Do you offer solutions supporting geographically diverse locations (e.g., remote location with satellite)?	Benefits: CA, TRM All the AIS Network team solutions are designed to function at a single location or at multiple locations. Our operating procedures are designed to provide repeatable results regardless of the people or place involved. We have extensive experience both with single site customers requiring support and with clients with multiple locations spread across the CONUS.
Q43.	Security	How have you implemented solutions similar to those in the Commonwealth making use of a centralized federated environment?	Benefits: CA, TRM AIS team members have multiple contracts with customers that have networks in a Federated Architecture. These customers have many end devices and those devices (and the support infrastructure for the devices) are spread across the globe. Our goal with these customers is to ensure all sites are acting together while offering the necessary autonomy to our service personnel so that they can focus on the local stakeholders needs. At SPAWAR, we support sites for BUMED, the DHA, NAVMED, MCiS and NAVMISSA, with an estimated total asset count of 40,000 end point devices. These end points are all over the world. The support and services we provide are available 24/7/365.

			At the Navy Medicine Operational Training Center, we supported a prime site in Florida with 2 sister sites in Connecticut and California. NMOTC also had detachments in North Carolina, Maryland, Virginia, and Washington state.
Q44.	Security	What do you consider to be the key challenges and tradeoffs for the implementation of Managed Security Services in an environment similar to the Commonwealth?	<p>Benefits: TRM Key challenges include keeping all sites compliant, keeping documentation updated, remaining vigilant and proactive instead of reactive and an ever increasing number of exterior hostile entities.</p> <p>Multiple sites often require more staff members- and more high level staff members- than having a centralized controlled network.</p>
Q45.	Security	What do propose at a high level to be the key strategies and implementation elements of any typical security services solution migration?	<p>Benefits: CA, TRM Make sure all teams are on the same page. Encourage communication. All team members should have opportunity to add to the conversation and solution. Set a baseline for the current network and make sure all sites reach the baseline before the new policies are implemented and migrated.</p>
Q46.	Security	Can you recommend additional Managed Security Services that are not currently included or considered in the scope of described services?	The services and requirements covered in the RFI are extensive and follow best policies for Managed Security services. No additional items are deemed missing at this time.
Q47.	Security	Based in your experience, what are the key challenges with regard to the regulatory requirements included in the scope of services? Do you have any recommendations based on your experience?	<p>Benefits: CA The major challenge with implementing these services in other locations is ensuring all policies from all different authoritative agencies are met. In regards to many of our customers, we are dealing with regulations and policies from the local command, DoD, DISA, NAVMED, the Navy, HIPPA regulations and DHA directives.</p> <p>As mentioned elsewhere, extensive documentation can help ensure that all policies and regulations are followed at all locations by all service providers.</p>

Q48.	Security	Do you have any guidelines or best practices regarding whether the various Managed Security Services are better off being remotely hosted or on premise?	<p>Benefits: CA</p> <p>As long as connections are secure, preferably through a hardware VPN, there is no theoretical problem with Secured Services being hosted remotely.</p> <p>In practice, having services remotely supported adds another layer of complexity, adds another attack vector for hostile entities and can lead to problems if an enacted policy unexpectedly cuts access to the connection.</p>
Q49.	Security	Do you think you would be able to provide all the described Managed Security Services yourselves or will you require to subcontract any services to other third parties?	The AIS Network team has the experience and Subject Matter Experts required to plan, implement and manage the described Security Services and would not need the support of any other entities.
Q50.	Scope Demarcation	VITA is interested in identifying the most efficient demarcation or bundling of these services between RFPs. For example, perhaps it would be more efficient to separate the Data Center facilities from the other Server services; or perhaps it would be better to include some or all of the Security services with the Server RFP. Please provide any further experience or suggestions regarding scope demarcation between potential RFPs.	<p>Benefits: CA, CT</p> <p>It is our opinion that the best supplier for each service offers the Commonwealth the best opportunity for meeting the needs and mission goals of all stakeholders. In general, as long as there is a strong central lead that will ensure all suppliers work together, there should be no problem with dividing services up amongst different providers- each of which can be chosen for showing the specialization, experience and expertise in the specified service.</p>
D. Financial/Managed Security			
Q51.	Pricing Structure	<p>The Commonwealth is interested in creating the best possible pricing structure for the Services. In light of that fact, Supplier is invited to both comment on the structure described in Exhibit 4.1 and 4.2, and to propose an alternate pricing structure if they believe that it will better serve the interests of both parties.</p> <p>The Commonwealth will contemplate any proposed pricing structure along five dimensions:</p> <ol style="list-style-type: none"> 1. Predictable: To the greatest extent possible, customers should be able to forecast charges ahead of time; changes in pricing that occur over time should not be a surprise. 2. Manageable: The pricing should not be so complex that it is needlessly difficult to administer. If quantities of work 	To Be Addressed in the AIS Network team’s proposal response to the RFP(s).

		<p>or equipment in the environment must be measured, then those quantities should be as easy and transparent as possible to measure.</p> <ol style="list-style-type: none"> 3. Fair: The service pricing must be a reasonable proxy for a services provider’s underlying costs and should adequately recover those costs. Additionally, to the extent possible, the party that causes any incremental cost should bear that cost. 4. Incentives: All pricing structures will incentivize certain behaviors and discourage others. The goals of the sourcing program must be kept in mind when considering the behaviors that might be driven by a pricing structure. For example, a goal to encourage server consolidation might include reduced cost at a centralized data center. 5. Flexible: As consumption moves up and down, the charges should also adjust. Technology is an evolving industry, and the ability to turn down an old service to turn up a new service is one of the benefits of an efficient IT sourcing agreement. Such adjustments may include minor volume changes month to month, significant scope additions, reductions, or terminations, and ability of large service providers to re-deploy investments. 	
Q52.	Inventory and Volume Collection	<p>The Commonwealth is interested in introducing new Resource Units that do not exist in the current contract; in order to fairly compensate Supplier for service delivered, and support the other goals described in question 36, Supplier is asked to describe their experience and approach to collecting and verifying volumes both before and after contract signing, and the approaches they use to adjusting financials in the event that the initial count is incorrect. For example, today database support is provided by the Supplier, but is not separately billable. The Commonwealth sees an advantage to separating out database support and making it a separate chargeable unit, how would the service provider collect and verify the volumes to support this chargeable unit?</p>	<p>To Be Addressed in the AIS Network team’s proposal response to the RFP(s).</p>

Q53.	Asset Ownership	The Commonwealth consumes certain services today which are underpinned by a set of assets (servers, firewalls, etc.). The Commonwealth (or their designee) has the right to acquire these assets. The Commonwealth has a desire to consume services; rather than own assets, and envisions Supplier acquiring these assets and using them to provide services back to the commonwealth. Please describe experiences acquiring assets from an incumbent, and also describe your recommend financial treatment of their cost recovery for these assets.	To Be Addressed in the AIS Network team’s proposal response to the RFP(s).
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6. FEEDBACK REGARDING RFI DOCUMENTS

Please use the table below to provide commentary regarding specific documents included within this RFI, adding rows as necessary.

Ref#	Document/Section	Supplier Commentary
C1.		No comments at this time.
C2.		No comments at this time.
C3.		No comments at this time.
C4.		No comments at this time.
C5.		No comments at this time.
C6.		No comments at this time.
C7.		No comments at this time.
C8.		No comments at this time.
C9.		No comments at this time.
C10.		No comments at this time.