

Virginia Information Technologies Agency



**COMMONWEALTH OF VIRGINIA**  
**VIRGINIA INFORMATION TECHNOLOGIES AGENCY (VITA)**  
**SUPPLY CHAIN MANAGEMENT DIVISION**  
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CHESTER, VIRGINIA 23836

**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  
**Single Point of Contact (SPOC):** Greg Scearce, VITA Supply Chain Management (SCM)  
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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

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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 4<sup>th</sup> 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 (CSR)M) 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

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<b>Issue Date:</b>	September 29, 2016
<b>Due Date / Time:</b>	October 21, 2016 at 3:00 pm EST
<b>Response Delivery Method:</b>	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.
<b>Single Point of Contact (SPOC):</b>	Greg Searce
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<b>Mailing Address:</b>	11751 Meadowville Lane, Chester, VA 23836
<b>Pricing:</b>	No pricing information should be submitted
<b>Document Format:</b>	Return this document, having populated Section 4 (Respondent Contact Information), Section 5 (Questions) below, and Section 6 (Feedback Regarding RFI Documents)
<b>RFI Questions and Answers:</b>	Suppliers may submit questions regarding this RFI at any time via e-mail to the SPOC.

## 3. OVERVIEW OF RFI DOCUMENTS

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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

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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	<a href="http://www.aisn.net">www.aisn.net</a>
Name of Contact Person	Jay Atkinson
Contact Person E-mail Address	<a href="mailto:Jay.atkinson@aisn.net">Jay.atkinson@aisn.net</a>
Contact Person Telephone #	703-304-1523

## 5. QUESTIONS

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

Ref#	Category	Question	Supplier Response
<b>A. Server/Storage Services</b>			
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>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> <p>On the infrastructure side we rely on the following. 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</p>

Ref#	Category	Question	Supplier Response
			<p>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>All of our procedures are audited year to meet or exceed multiple certifications and standards. At each location we have access to onsite personnel as well as the ability for our own employees to access the servers when the need for hands on management occurs.</p> <p>Incorporating more data centers into this environment is a matter of building the core routing capability, bringing in security gear to handle the VPN's into the management network, and where possible connecting new locations with dark fiber for inter data center connectivity and management.</p> <p>We have a ticketing system where problems can be reported, and effectively managed by our personnel, which also allows us to track new installs, and customer orders / requests.</p> <p>It should be mentioned that best practice would be to have multiple data centers interconnected in such a way as to provide backup and recovery resources for the other data centers. More than one is best, but more than four may be questionable, though reasons of geographic dispersion may argue in favor of more than four. What would be best for the Commonwealth would be to consolidate into fewer data centers with more capability in each. Each data center, has to have physical security, power backups and multiple</p>

Ref#	Category	Question	Supplier Response
			<p>network vendors / routes, otherwise you run the risk of a single point of failure.</p> <p>Our understanding is that agencies want to control their own, and want to have access to their own and desire faster response times in setting up new resources. That can be accomplished with fewer data center to get better control of costs and better reliability and resilience of those resources. Especially with cloud technologies today.</p>
Q2.	Server/Storage	<p>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>	<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	<p>What do you recommend for the length of the contract for the Data Center Facility for this type of environment?</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>

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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?	Timely updates and proper maintenance practices with virtualization software enables IT professionals 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>There is no capital outlay with Microsoft cloud services and associated virtual machines. The model of cloud computing in Microsoft Azure is one of customers paying for consumption of services used versus purchasing or permanently owning IT assets or the datacenter environment they operate in. By leveraging the Azure cloud service, an agency can divest its IT assets, removing the need for an initial capital outlay.</p> <p>For on-premises leveraging Microsoft management solutions allows for organizations to define cost for individual services and components that roll up to a showback\chargeback report.</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>One recommendation would be for the Commonwealth to consider public cloud infrastructure services which enable the provisioning of highly differentiated tiers of service based on detailed performance and capacity characteristics. The Microsoft Azure cloud platform includes a wide variety of server and storage offerings that can be sized to effectively serve the needs of the Commonwealths enterprise solutions.</p> <p>Our experience is that Microsoft Azure's robust monitoring and utilization reporting capabilities enable central IT organizations to deliver tiered</p>

Ref#	Category	Question	Supplier Response
			services that are closely aligned with the technology needs and budget constraints of their end customers.
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>The Microsoft Azure cloud platform offers a robust portfolio of over 50 pre-configured server templates and multiple storage options. You can also upload your own custom templates to the Azure catalog, which enables an RU model that can flex over time to ensure alignment with the business needs of your end customers.</p> <p>Microsoft Azure's robust billing and reporting tools can also serve as the foundation of an automated chargeback model that directly reflects a customer's utilization of the various services.</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?	Microsoft Azure supports the concept of galleries that enable you to organize the server and storage resources available to your customers. Leveraging the native galleries provided within the Azure platform provide the flexibility to apply differentiated service levels and resource categories.
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?	The Microsoft Azure service catalog provides a robust set of services that can be bundled or used individually to meet the needs of the environment or individual deployment. Integration with the hypervisor and management solutions, and even traditional physical hardware, through the Hybrid Cloud model provides even more flexibility in deployment options and service catalog options. All while maintaining common security and governance standards (Ex. Active Directory for Identity).
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?	Cloud computing enables new scenarios for applications requiring scalable, durable, and highly available storage for their data – which is exactly why Microsoft developed Azure Storage. In addition to making it possible for developers to build large-scale applications to support new scenarios, Azure Storage

Ref#	Category	Question	Supplier Response
			<p>also provides the storage foundation for Azure Virtual Machines, a further testament to its robustness.</p> <p><u>Azure Storage:</u>  <b>Massively Scalable</b> - so you can store and process hundreds of terabytes of data to support the big data scenarios required by scientific, financial analysis, and media applications. Or you can store the small amounts of data required for a small agency website. Wherever your needs fall, you pay only for the data you're storing. Azure Storage currently stores tens of trillions of unique customer objects, and handles millions of requests per second on average.</p> <p><b>Elastic</b> - so you can design applications for a large global audience, and scale those applications as needed - both in terms of the amount of data stored and the number of requests made against it. You pay only for what you use, and only when you use it.</p> <p><b>Auto-partitioning System</b> - that automatically load-balances your data based on traffic. This means that as the demands on your application grow, Azure Storage automatically allocates the appropriate resources to meet them.</p> <p><b>Diverse OS</b> - supports clients using a diverse set of operating systems (including Windows and Linux) and a variety of programming languages (including .NET, Java, Node.js, Python, Ruby, PHP and C++ and mobile programming languages) for convenient development. Azure Storage also exposes data resources via simple REST APIs, which are available to any client capable of sending and receiving data via HTTP/HTTPS.</p>

Ref#	Category	Question	Supplier Response
			<p><b>Premium Storage</b> - delivers high-performance, low-latency disk support for I/O intensive workloads running on Azure Virtual Machines. With Azure Premium Storage, you can attach multiple persistent data disks to a virtual machine and configure them to meet your performance requirements. Each data disk is backed by an SSD disk in Azure Premium Storage for maximum I/O performance.</p>
Q11.	Server/Storage	<p>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>	<p>With multiple levels of storage options IOPS provide financially backed SLA's in Azure, which means services can be configured with what is needed, and in addition can be monitored and measured through the portal.</p> <p>For on-prem Windows Server provides tiering, Cache, and high performance RDMA fabric so infrastructure can be defined to meet the performance needs of any service. In addition, can be monitored and tracked with traditional Performance measure, Operations Management Suite, and/or System Center.</p>
Q12.	Server/Storage	<p>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>	<p>Traditional virtual environment can be either combined with a private cloud or left stand alone. However, the greatest benefit would be to include these traditional environments. A Private cloud is defined as having common pillars such as self-service, automation, infinite scale, as well as others.</p> <p>Microsoft management combined with the hypervisor provides all the technologies needed to build a private cloud. In addition, this stack can be used to integrate with other common Virtualization platforms such as VMWare for management and private cloud expansion. Stretching to the public cloud is easy with the Microsoft Hybrid Cloud approach which extends the capabilities of Self Service, Automation, and deployment options (Scale, burst, etc.)</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)?	Azure SQL DB provides DBaaS, 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 DBaaS can be deployed on premise 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?	The Microsoft Hybrid Cloud approach provides true choice in service delivery. This means an organization can choose Azure to deliver new technologies or services that may not be available in a customer's service catalog today. Leveraging Azure removes the need for an initial large capital expenditure and reduces the time to deploy new service delivery. Furthermore, since Azure is a consumption based model, you only pay for what you use, and not for what you might use. Where it makes sense, Azure can be paired with on premise datacenter resources to deliver services via a public/private cloud approach with automation and service tiering to deliver cost effective solutions. The requirements in the description of services would cost more to meet then the business value they provide are compute, storage, and network, as well as the incremental FTE Hours to build and configure the infrastructure to support services.

Ref#	Category	Question	Supplier Response
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>The Commonwealth should consider Azure Key Vault as a key management solution. 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>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> <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</p>

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			<p>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?	AIS Network 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. AIS Network has ITIL-certified personnel on staff and employed in the field. AIS Network has experience with multiple methods of administrating contract vehicles including with Multi-Sourcing Integrators (MSI).
Q18.	MSI	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)?	Yes, we do foresee challenges for common monitoring groups. We would recommend implementing 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

Ref#	Category	Question	Supplier Response
			3rd party services which integrate with our management platform.
Q19.	MSI	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?	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. Microsoft Azure Site recovery 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 configured on a per OSE basis, however the protection groups can be everything from individual OSEs to large multi-tier applications and/or entire datacenters.
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?	We recommend a multi-site, multi region approach to High Availability and Disaster Recovery. At minimum we recommend 2 datacenters that are geographically dispersed (at least 500 miles apart) and have multiple levels of redundancy per datacenter including hardware and OSE redundancy. Azure provides the ability to protect services with multi-site high availability and/or Disaster recovery. High Availability can be configured in a Hybrid Cloud deployment model between VITA Datacenters and Azure. In addition, servers in VITA datacenters can have Disaster Recovery to more than one Azure Datacenters. Resources can be protected to be regionally redundant with Azure Datacenters having more than 500 miles of separation. By leveraging Azure, the Commonwealth could reduce the need to manage and maintain additional physical facilities.

Ref#	Category	Question	Supplier Response
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>We recommend the Commonwealth use Azure Site Recovery to migrate between Datacenters or to migrate workloads to Microsoft Azure. 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>
Q22.	Enhanced Services	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>We recommend that the Commonwealth consider the following emerging technologies: 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><u>Project Catapult</u></p> <p>Technology behind Microsoft's hyperscale acceleration fabric, and is at the center of a comprehensive set of investments Microsoft is making to build a supercomputing substrate that can accelerate our efforts in networking, security, cloud services and artificial intelligence. Our work in this area started in 2010 in response to:</p> <ol style="list-style-type: none"> <li>1. Stresses in the silicon ecosystem driven by diminishing rates of CPU improvements</li> <li>2. Growing compute demands of AI applications and services.</li> </ol> <p><u>Analytics</u></p> <p>Azure Machine Learning is a powerful cloud-based predictive analytics service that makes it possible to quickly create and deploy predictive models as analytics solutions. When you use the Azure cloud to run machine learning experiments or build solutions,</p>

Ref#	Category	Question	Supplier Response
			<p>you don't have to buy expensive hardware or infrastructure.</p> <p>Azure Machine Learning not only provides tools to model predictive analytics, but also provides a fully managed service you can use to deploy your predictive models as ready-to-consume web services. Azure Machine Learning provides tools for creating complete predictive analytics solutions in the cloud: Quickly create, test, operationalize, and manage predictive models.</p> <p><u>Compute</u></p> <p>Service Fabric is a distributed systems platform that makes it easy to package, deploy, and manage scalable and reliable microservices. Service Fabric also addresses the significant challenges in developing and managing cloud applications. Developers and administrators can avoid solving complex infrastructure problems and focus instead on implementing mission-critical, demanding workloads knowing that they are scalable, reliable, and manageable. Service Fabric represents the next-generation middleware platform for building and managing these enterprise-class, Tier-1 cloud-scale applications.</p> <p><u>Networking</u></p> <p>The Azure Content Delivery Network (CDN) caches static web content at strategically placed locations to provide maximum throughput for delivering content to users. The CDN offers developers a global solution for delivering high-bandwidth content by caching the content at physical nodes across the world.</p>

Ref#	Category	Question	Supplier Response
			<p>The benefits of using the CDN to cache web site assets include:</p> <p>Better performance and user experience for end users, especially when using applications where multiple round-trips are required to load content. Large scaling to better handle instantaneous high load, like at the start of a product launch event. By distributing user requests and serving content from edge servers, less traffic is sent to the origin.</p> <p>Microsoft Azure ExpressRoute lets you extend your on-premises networks into the Microsoft cloud over a dedicated private connection facilitated by a connectivity provider. With ExpressRoute, you can establish connections to Microsoft cloud services, such as Microsoft Azure, Office 365, and CRM Online. Connectivity can be from an any-to-any (IP VPN) network, a point-to-point Ethernet network, or a virtual cross-connection through a connectivity provider at a co-location facility. ExpressRoute connections do not go over the public Internet. This allows ExpressRoute connections to offer more reliability, faster speeds, lower latencies, and higher security than typical connections over the Internet.</p> <p>Microsoft Azure Application Gateway provides an Application Delivery Controller (ADC) as a service, providing many layer 7 load balancing capabilities. In simple terms, it works by accepting traffic and based on rules that are defined with it, routes the traffic to the appropriate back-end instances.</p> <p>Application load balancing enables IT administrators and developers to create routing rules for network</p>

Ref#	Category	Question	Supplier Response
			<p>traffic based on the HTTP protocol. The Application Gateway service is highly available and metered. For the SLA and pricing, refer to the SLA and Pricing pages.</p> <p>The Application Gateway applies the routing rules to HTTP traffic, providing layer 7 (HTTP) load balancing. When you create an application gateway, an endpoint (VIP) is associated and used as public IP for ingress network traffic. Azure provides layer 4 load balancing through Azure load balancer working at the transport level (TCP/UDP) and having all incoming network traffic being load balanced to the Application Gateway service. The Application Gateway routes the HTTP traffic based on its configuration whether it's a virtual machine, cloud service, or an external IP address.</p> <p><u>Storage</u></p> <p>StorSimple is an efficient, cost-effective, and easily manageable storage area network (SAN) solution that eliminates many of the issues and expenses associated with enterprise storage and data protection. It uses the proprietary StorSimple 8000 series device, integrates with cloud services, and provides a set of management tools for a seamless view of all enterprise storage, including cloud storage.</p> <p>StorSimple uses storage tiering to manage stored data across various storage media. The current working set is stored on-premises on solid state drives (SSDs), data that is used less frequently is stored on hard disk drives (HDDs), and archival data is pushed to the cloud.</p>

Ref#	Category	Question	Supplier Response
			<p>Site Recovery is an Azure service that contributes to your BCDR strategy by orchestrating replication of on-premises physical servers and virtual machines to the cloud (Azure) or to a secondary datacenter. When outages occur in your primary location, you fail over to the secondary location to keep apps and workloads available. You fail back to your primary location when it returns to normal operations.</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>As outlined above we believe the Commonwealth should consider emerging technologies with a focus on 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 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.</p>
Q24.	Enhanced Services	What would you propose as a good business case for virtualizing the desktop (offering VDI)?	<p>VDI is a good offering for specific use cases, such as Contractors, Developers, or non-full time\seasonal employees. In some cases, VDI would be appropriate for certain applications where bandwidth between the end user and the application are a concern.</p>

Ref#	Category	Question	Supplier Response
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.	We recommend an MPLS network with multiple Internet demarcation points for high availability and no single point of failure. For connectivity to Azure multiple direct connections through ExpressRoute connections should be configured to different regions for high availability.
Q26.	Data Center LAN	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?	By bundling LAN services with Server and Storage is could present increased cost to VITA. the most effective way to provide LAN services and Server/Storage is to leverage Azure. Azure provides software based networking and storage capabilities in one services deliver platform, for example Azure provides Load Balancers, Firewalls, VPN devices in the services as does Windows Server, which provides out of the box Network Controller, Load Balancer, Distributed Firewalls, and Network Virtualization.
Q27.	Data Center LAN	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?	LAN services are integrated into the Microsoft Cloud Platform and do not require Data Center Lan services to be considered separately
Q28.	Data Center LAN	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?	Utilizing a separate/shorter Data Center facilities contract would facilitate ongoing reductions in Data Center footprint as the legacy compute and storage assets are transitioned to the Microsoft Azure Platform.
Q29.	Data Center LAN	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>Datacenter LAN resources are 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 datacenter, between our datacenters and edge nodes, and our geographic reach throughout the internet ecosystem. Inside our datacenters, we connect more than 1 million servers to the network fabric, which contains the routers, load balancing, firewalls, Domain Name Service (DNS)</p>

Ref#	Category	Question	Supplier Response
			<p>servers, and many other services. The datacenter fabric then connects to the core backbone and our inter-datacenter 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 datacenters, as well as supporting inter-datacenter traffic for applications such as data replication for disaster recovery.</p>
Q30.	Data Center LAN	<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>This may be one or all. The datacenter 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 Datacenter 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. It also depends greatly on the location and if the new location is already in service as a data center. Most 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. If it’s an entirely new building, then the building owner/operator would have to work with vendors to get them in the building, AIS could help with this, but the real pull would come from the building owner/operator.</p>
Q31.	Data Center	<p>How does the Supplier propose to migrate Server, Storage, Data Center LAN services out of the CESC datacenter by June 2019 or earlier? Describe how the Supplier would seamlessly migrate out of</p>	<p>Virtual and Physical Server configuration and storage are seamlessly migrated with Azure Site Recovery. Additional storage can be moved to a StorSimple</p>

Ref#	Category	Question	Supplier Response
		CESC like-for-like, transform to new services, or a combination of the two? What are the recommended approaches?	<p>device or leverage Storage Replica from Windows Server.</p> <p>A SQL database native to the cloud, also known as a platform as a service (PaaS) database or a database as a service (DBaaS) that is optimized for software-as-a-service (SaaS) app development. Compatible SQL databases can be easily migrated to Azure PaaS (Azure SQL Database) by using the Deploy Database to Microsoft Azure Database Wizard. A variety of common SQL development tools as well as the SQL Azure Migration Wizard will help identify databases that are good candidates for transfer to the PaaS hosting option.</p>
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>Microsoft Hybrid cloud solution provides seamless integration between Private, Public, and Hosted cloud solutions. This provides users and administrators a consistent experience across cloud offerings.</p> <p>Microsoft database, analytic and reporting tools are designed to run in hybrid environments providing a wide range of configurations and allowing the option to pick-and-choose which services are run on-prem vs. the cloud while not limiting data access or the available feature set.</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?	We consider customer ownership of contracts a best practice to ensure best pricing and flexibility.
Q34.	Cloud Services	When the Commonwealth buys cloud services offerings how do you propose to identify where the data and services are located?	The location of data and services is controlled by the Commonwealth. Azure has multiple datacenter facilities in the US and in Microsoft's Government Cloud environment, the data and services only reside where the Commonwealth places them.
<b>B. Financial/Server Storage</b>			

Ref#	Category	Question	Supplier Response
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"> <li>1. <b>Predictable:</b> 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.</li> <li>2. <b>Manageable:</b> 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.</li> <li>3. <b>Fair:</b> 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.</li> <li>4. <b>Incentives:</b> 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.</li> <li>5. <b>Flexible:</b> 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</li> </ol>	<p>Azure is a consumption based Cloud Service model. All pricing is available in the service catalog\Azure Portal at time of service deployment. Azure pricing model provide great cost efficiency and is completely consumption based so you never pay for what you haven't used.</p>

Ref#	Category	Question	Supplier Response
		additions, reductions, or terminations, and ability of large service providers to re-deploy investments.	
Q36.	Inventory and Volume Collection	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?	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).
<b>C. Managed Security</b>			
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?	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.
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?	AIS Network has experience with designing and implementing large scale Security Support Services. Managed Security is often reactive in many environments. Instead of looking ahead and focusing

Ref#	Category	Question	Supplier Response
			<p>on possible growth and obstacles, teams are often wrapped up in reactive 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> <p>Communication and the hierarchy of command are vital in a large, capacious campus.</p>
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?	AIS Network 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)?	Azure was built with geo-diversity in mind, with datacenters across the US including both commercial and Government environments.
Q43.	Security	How have you implemented solutions similar to those in the Commonwealth making use of a centralized federated environment?	<p>We 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.</p> <p>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</p>

Ref#	Category	Question	Supplier Response
			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?	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. Multiple local sites often have more autonomy that would be preferred in an environment. Multiple sites often require more staff members- and more high level staff members- than having a centralized controlled network.
Q45.	Security	What do you propose at a high level to be the key strategies and implementation elements of any typical security services solution migration?	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.
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?	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. As mentioned elsewhere, extensive documentation can help ensure that all policies and regulations are followed at all locations by all service providers.

Ref#	Category	Question	Supplier Response
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?	As long as connections are secure, preferably through a hardware VPN, there is no theoretical problem with Secured Services being hosted remotely. 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.
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?	AIS Network 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.	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.
<b>D. Financial/Managed Security</b>			
Q51.	Pricing Structure	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. The Commonwealth will contemplate any proposed pricing structure along five dimensions: <ol style="list-style-type: none"> <li>1. <b>Predictable:</b> 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.</li> <li>2. <b>Manageable:</b> 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</li> </ol>	To Be Addressed in the AIS Network team's proposal response to the RFP(s).

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		<p>those quantities should be as easy and transparent as possible to measure.</p> <p>3. <b>Fair:</b> 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.</p> <p>4. <b>Incentives:</b> 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. <b>Flexible:</b> 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>	
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>	To Be Addressed in the AIS Network team's proposal response to the RFP(s).

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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.	Utilize tools, services, as well as the partner community to leverage well known processes to take assets and migrate from current state to hybrid cloud services platform. This approach will minimize the need to transfer physical assets and accelerate the commonwealth's ability to consume services without owning those physical assets.

## 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.