

**ADDENDUM 5 TO APPENDIX 4 TO SCHEDULE 3.3
TO THE
COMPREHENSIVE INFRASTRUCTURE AGREEMENT
STATEMENT OF TECHNICAL APPROACH**

Statement of Technical Approach for Help Desk Services

Northrop Grumman's help desk solution will put in place the people, processes and tools to deliver enterprise wide help desk services that:

- Take ownership of customers' problems until resolved
- Understand the business of customers to return them to work as quickly as possible when they have a technology problem
- Establish and maintain positive, long-term relationships with customers through open communication and continuous feedback
- Provide high-level customer service and technical expertise
- Respond rapidly and positively to customer inquiries

End user satisfaction will initially be maintained as Northrop Grumman begins help desk operations using the people, tools and processes already providing IT services. Those same people will be involved in the preparation for, implementation of and on-going service delivery through the consolidated, integrated, enterprise wide VITA help desk. Current VITA personnel will participate in defining processes related to the incident management system that will be quickly deployed across the enterprise. They will participate in the update and on-going maintenance of the Help Desk Standard Operating Procedures. Their agency and regional expertise will be tapped for the creation of knowledge to be used by all customer service analysts serving the Commonwealth.

Existing VITA personnel will support the roll-out of the consolidated help desk that will deliver services from the Southwest Enterprise Solutions Center, the Richmond Enterprise Solutions Center and the virtually consolidated but distributed help desk and deskside support employees. They will support that roll-out by their participation in the planned PC Refresh and E-mail Migration projects which kick-off in the first year of operations.

Customers will also be given the ability to access Frequently Asked Questions (FAQs) and knowledge for self-help and personal incident resolution. Northrop Grumman's solution incorporates centralized account administration and performance reporting, as requested by VITA. This solution will provide an enterprise-wide help desk for the Commonwealth of Virginia, initially supporting 67,223 seats and integrated with all support services.

The Northrop Grumman help desk will be staffed by existing VITA support personnel, including VITA Customer Care Center staff and agency-dedicated help desk and deskside support personnel, and will use Information Technology Infrastructure Library (ITIL)/ITSM-based processes and incorporate Web-accessible tools and telephony features to allow some help desk personnel to be collocated with agency end-user customers in a "virtual" help desk model. Northrop Grumman's incident management system will be fully integrated with a full suite of system and service management tools, and will keep all help desk personnel, whether local or remote, informed about system and network conditions.

People

The Northrop Grumman enterprise wide help desk solution incorporates the VITA Customer Care Center currently located within the Richmond Plaza Building. Furthermore, Northrop

Grumman shall support a virtual organization, allowing help desk personnel to be situated outside the Richmond Plaza Building, within any agency, or from a home-based office.

During the start-up phase, VITA personnel will be informed of the operational changes that will take place. Northrop Grumman will manage help desk personnel through employment and cultural changes over the life of the program, and will provide ongoing training for support personnel to address the continual changes within the environment.

Although service initially will be provided by the same persons in the same places, during the first months of transition support personnel will be trained in the use of the incident management system, and will be expected to log each incident handled every day. Support personnel will have a record of work performed, and VITA and Northrop Grumman will have a factual baseline of work being performed. This baseline will be the foundation for determining employee skill sets and the volume of work required of each support service. Employees will have access to training that will teach them the tools and processes used in their job, as well as new skills.

During transition, help desk and deskside support staff throughout the Commonwealth will document the environment and the technology knowledge and procedures specific to the agency and location served. This documentation will enable support staff to quickly refer to materials concerning past incidents experienced by end users to speed the return to service for recurring incidents. The help desk within the integrated support model forms the First Point of Contact element of Northrop Grumman's integrated support model. That model is arranged as follows:

- First Point of Contact — First point of contact for service requests and inquiries
- On-Site Support — Technical Site Support and Operations Services
- Enterprise Support — Enterprise Engineering and Technical Support Services

First Point of Contact help desk personnel will be organized into self-directed work teams, led by team-selected leads. Northrop Grumman's telephony solution, supporting skills-based routing, along with its incident management system, will allow teams to be formed along technology, agency, location, region, or other virtual boundary. These work teams can be reorganized as enterprise needs dictate.

Additional support personnel within the help desk organization include quality assurance/root cause, reporting, and outage management. These personnel provide support for all processes and tools. Dedicated personnel also support the integration and interfaces of the help desk toolset with the specific systems to provide automated, proactive notification of significant incidents.

Northrop Grumman's knowledge management system, Knova, is maintained by a team of content managers and subject matter experts. This confirms that knowledge content created for the First Point of Contact customer service analysts and customers is technically accurate, understandable and meets the established quality standards. The content managers are customer service analysts assigned to maintain developed knowledge. Subject matter experts create knowledge for help desk use to increase the number of incidents that can be resolved on the first contact.

Process

The Northrop Grumman help desk team will work closely with the Cross Functional Services Office to enable common processes, procedures and policies are implemented and fully documented across all teams. The Northrop Grumman help desk team will take the lead role in

the development of the incident management, problem management and root cause analysis processes for VITA.

Help Desk Cross Functional Processes

Northrop Grumman will establish and maintain a single enterprise wide problem and incident management system using Peregrine ServiceCenter. Early in the Transition phase, Northrop Grumman will establish procedures for addressing incidents and problems across all Eligible Customers, as well as develop notification and escalation rules for applicable service providers.

Peregrine ServiceCenter will be used across all service providers to perform Incident Management, Problem Management, Root Cause Analysis, Request Management, and Work Management modules. In addition, the Peregrine Change Management Module will be used to track changes from initial request, analysis and scheduling to approval, execution and closure.

The Change Management module provides a proactive, automated and integrated solution to infrastructure change control that minimizes business risks and promotes strategic planning for infrastructure management with repeatable, pre-defined processes and business rules.

The reporting capabilities within Peregrine ServiceCenter will be used to provide metrics across service areas for all VITA agencies. The team will use Configuration and Release Management to maintain accurate inventory and will leverage the help desk to verify and audit configuration items.

Centralized account management will provide the capability of requesting, approving and auditing accounts across the entire enterprise and all service areas. Electronic workflow will enable requests allow tracking and reporting. The reporting function will provide the capability of generating template and ad hoc reports.

Customer service analysts are guided by the help desk standard operating procedures (SOP) document, which is part of the larger Operations Manual.

Northrop Grumman will develop and implement help desk standard operating procedures including the processes and associated procedures for effective operation of the help desk. The document describes the basic requirements for help desk operations and defines the expected outcomes. The documentation also includes a set of internal, management and customer metrics, referencing a library of measurements and reports that are contract and customer specific.

Help Desk Standard Operating Procedures
General Information
Guidelines
Staffing
Lifecycles
Telephone Procedures
Incident Handling Procedures
Customer Issue Escalation and Notification
Outage Management and Disaster Recovery
Quality Assurance
Tools
Knowledge Management
Help Desk Configuration Control Board
Measurement
Reporting
Appendix A – Account-Specific Information
Appendix B – Disaster Recovery/Backups
Appendix C – Glossary
Appendix D – Forms

Exhibit 1. Standard Operating Procedures

Agency advocates, VITA, and Northrop Grumman personnel will work together to establish and maintain a set of fully documented procedures. This documentation, accessible by support personnel, will be used as one of the primary training tools for help desk personnel. This documentation explains workflows, such as escalated assistance and outage notification, and service-level definitions, thereby establishing customer expectations.

Technology

The Southwest ESC will include a robust solution set including telephony, incident and knowledge management systems, and eSupport and Web enablement tools.

The incident management system forms the central hub of Northrop Grumman’s managed services solution; it will provide an enterprise-wide service desk for the Commonwealth of Virginia, initially supporting 67,223 seats, designed for growth and expansion, and integrated with all support services. This solution is an ITIL/ITSM-based incident management system, implementing incident, problem, and change, release, and configuration management components. The incident management system will be integrated to a suite of system management tools.

The Northrop Grumman telephony solution includes a PBX switch and a complement of application servers including Integrated Voice Mail, Interactive Voice Response System and Call Management System. The telephony solution is mirrored in our [Security information redacted by the Commonwealth and as requested by Northrop Grumman] help desk facility for disaster recovery and survivability options, and shared processes and reporting capabilities. The advanced call routing features in Northrop Grumman’s telephony solution enable leveraging across Northrop Grumman help desks and personnel through skills-based routing and dynamic best services routing.

Northrop Grumman’s centralized knowledge management solution is based on Knova as its knowledge management repository tool. The Knova tool is used to store, manage and maintain the IT-related technical knowledge of the customer environment. Knova is a Web-based

application running on a distributed Web server farm. Knova provides a user-friendly search engine that will search an entire document for the word, phrase, or concept being searched on.

Access to Knova is also provided through the user portal. The self-service tool interacts with the end user and tracks the user's progress toward a solution. If the dialog becomes too cumbersome or does not resolve the problem, Knova has the capability to escalate directly into an incident record that can be directed to an analyst who will know where the end user experienced problems and assist from that point forward.

After completion of the Southwest ESC, customer service analysts will continue to reside at the Richmond Enterprise Solutions Center. The help desk will receive end-user contacts at both locations. Should an event interrupt help desk telephony or network service at either location, the other will continue to receive calls. The production incident management system will be located at the Southwest ESC while the development/backup system will be located at the Richmond Enterprise Solutions Center, as depicted in **Exhibit 2**. Should incident management system service be interrupted, the backup system will assume the production role. This is accomplished through a mirroring strategy between the production and backup databases, to provide continuous help desk operations and sustained service-level performance. When normal operation of the interrupted service is restored, use of the production systems will resume with minimally perceived end-user disruption.

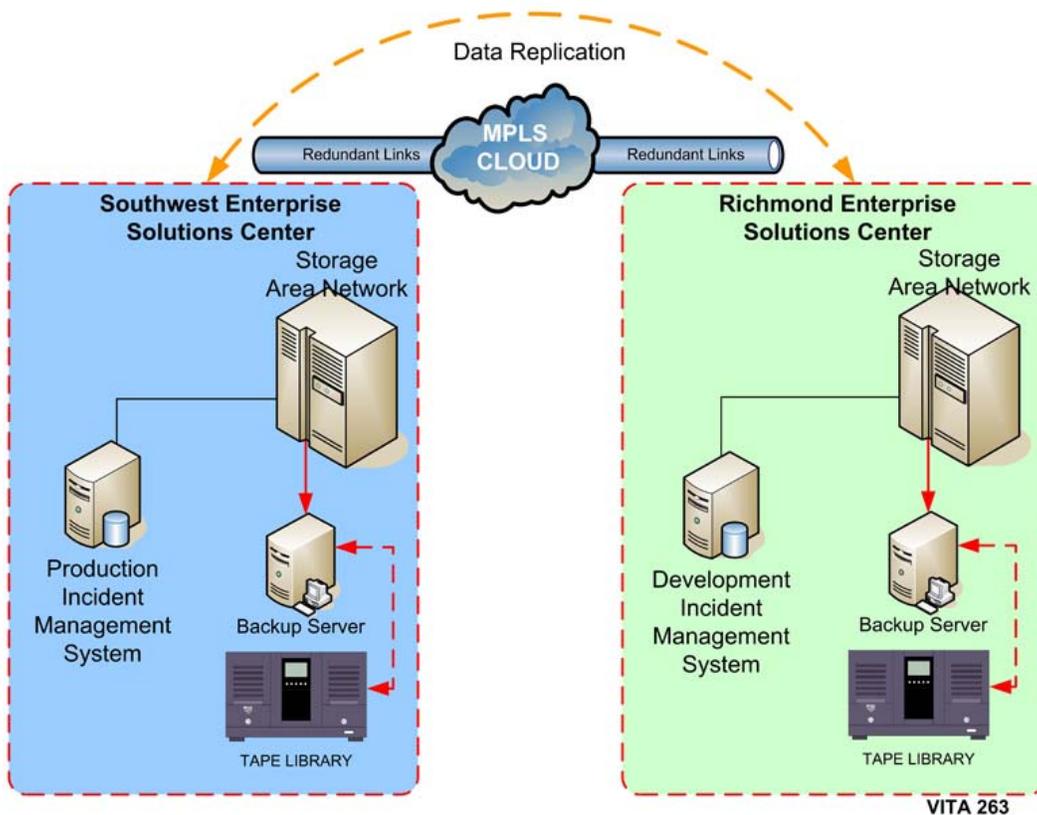


Exhibit 2 Help Desk Data Replication

The location of production and development Incident Management systems and Northrop Grumman's Storage Area Network data replication strategy provides a quick response to any service interruption or failure.

Centralized Account Administration

The Northrop Grumman technical approach provides consolidated framework for administering and managing user identities across the enterprise. The primary elements of the approach include:

- Real time provisioning (creating) of user accounts
- De-provisioning (deleting) of user accounts
- Self-service features
- Centralized audit information
- Integration of key systems via notification services
- Exchange automation that includes:
 - Mailbox management
 - Distribution list synchronization
 - Schedule and ad hoc reporting
 - Comprehensive auditing

Staffing for Help Desk Service Area

The Help Desk Support Services team provides the help desk, program management, VITA, and the end-user customer with the training, tools, knowledge, processes, and reports that provide improving help desk services delivery. Support Services staff includes:

- Software engineering specialists, who implement, integrate and support the IT service management toolset including incident, problem, request, change, and service-level management.
- Training analysts, who provide ongoing new employee training, develop and teach new or improved procedures, and assist knowledge, process and procedure development and maintenance.
- Outage management personnel are responsible for coordinating the resolution of high-severity incidents and are involved in the root-cause analysis (RCA) process.
- RCA/quality analysts are jointly responsible for root-cause analysis and help desk quality assurance. They review high-severity incidents and resolution to determine the cause of an incident or an extended resolution time. They work with the involved parties and oversee resolution procedure improvements or activities to eliminate future similar problems. Quality assurance responsibilities include the review of recently opened incidents, live or recorded listening to analyst/customer experiences, and procedures reviews, leading to identifying and acting on service improvement opportunities.
- Reporting analysts develop and deliver ad hoc and recurring incident, problem, service-level management reporting, and various service delivery-related internal Northrop Grumman performance reports.

The help desk manager, senior administrative assistant, managers and most of the Support Services staff will be involved in the Effective Date to Service Commencement Date activities, hiring VITA personnel, developing the Procedures Manual, implementing the incident and knowledge management systems, developing training, and updating standard reports to fit specific Commonwealth needs. From Service Commencement Date through the Transition, the

help desk will complete the activities not finished prior to the Service Commencement Date, deliver and provide a minimally disrupted level of service from before Service Commencement Date, and conduct the activities necessary to complete the transformation of help desk services.