



# Network Infrastructure Report

Virginia Information Technologies Agency

[vita.virginia.gov](http://vita.virginia.gov)

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## INTRODUCTION

### BACKGROUND

The Virginia Information Technologies Agency (VITA) is submitting the Commonwealth's network infrastructure report, pursuant to [Item 91\(E\)](#) of the 2022 Appropriation Act, which provides:

*The Virginia Information Technologies Agency shall provide a network infrastructure report to the House Appropriations Committee, Senate Finance and Appropriations Committee, and Joint Legislative Audit and Review Commission by November 1 of each year. The report shall indicate whether the Commonwealth's network infrastructure is adequate to meet the needs of state agencies, and if not, identify any needed upgrades. For each network infrastructure upgrade identified, the report shall specify the estimated cost and whether the upgrade is to the portion of the network maintained by the Virginia Information Technologies Agency or another state agency.*

This report covers December 2021 to November 2022. VITA thanks policymakers for this opportunity to report on this subject of utmost importance.

### SUMMARY

VITA provides information technology (IT) infrastructure services to the Commonwealth's 65 executive branch state agencies and the workforce of over 65,000 state employees, equipping and empowering the agency's colleagues to serve Virginia's 8.6 million residents. Network infrastructure includes software and hardware that helps run and maintain the Commonwealth's IT network. They are the foundation for almost all government interactions with Virginians.

This report details the progress since the last report and the network infrastructure needs of state agencies. VITA implemented several projects meant to increase performance, reliability, and network capacity while maintaining a secure environment.

## **RECENT NETWORK IMPROVEMENT INITIATIVES**

### **VOICE MODERNIZATION**

VITA worked with Verizon Wireless's phase out of its legacy 3G network and conversion of towers to 4G and 5G access. Customer agencies then began replacing their older equipment with 4G compatible devices. This upgrade adds advanced calling features and Wi-Fi calling. Phasing out old devices and phone upgrades allowed users to receive the most recent operating systems and security updates. VITA updated the voice and data networks of more than 1,490 agency sites, bringing the latest technology to its customer agencies.

### **PRIMARY AND SECONDARY DATA CENTER MOVE**

As of late May 2022, the primary data center migration project finished; a new data center was developed and opened. The data of all 65 Commonwealth executive agencies migrated to the cloud-ready platform. The move took over two years to complete. The primary data center moved from the Commonwealth of Virginia's enterprise data center from a traditional, on-premises site to a modernized, co-located, cloud-ready platform. Many of the moves were executed over weekends or late hours on a weeknight.

The data center move project required more than 50 move events, tight and detailed coordination and communication efforts, and hundreds of team members working together across the Commonwealth. 4,500 servers and applications were relocated.

The move provided an infrastructure refresh, which enabled new capabilities for high availability (HA) configurations, cloud-based disaster recovery, cyber resiliency and backup services.

In addition to the primary data center move, VITA also completed its move of the secondary data center in Manassas into its new location in Ashburn. This move will enable VITA to provide a more robust and flexible disaster recovery solutions.

### **VIRTUAL PRIVATE NETWORK (VPN)**

VITA launched a new remote user access tool, Prisma GlobalProtect, two years ago. Remote user access allows individuals to access Commonwealth of Virginia (COV) resources using a virtual private network (VPN) when working off-site. The legacy VPN technology (Cisco Anywhere Connect) is being replaced with the Prisma GlobalProtect tool. Implementing Prisma will enable VITA to provide more security services in the cloud to include user access and address the issue of many point products to handle different requirements in the environment, such as secure web gateways, firewalls, secure virtual private network (VPN) remote access, and software-defined wide area networks (SD-WANs). This will provide the capability of Prisma for every user while leveraging Okta, the current single sign-on application, with which users are already familiar. The project has kicked off after successful pilots have proven that the new services provide a more reliable and consistent access method for agency users to connect to their applications from remote locations. With the new service, users will sign in to GlobalProtect and then be prompted to authenticate using Okta, the current single sign-on application available to all users in the Commonwealth.

## **MANAGED SOFTWARE-DEFINED WIDE AREA NETWORKING (SD-WAN)**

Managed software-defined wide area networking (SD-WAN) allows organizations to leverage many network transportation methods to securely connect users to applications. In response to real-time network conditions, managed SD-WAN integrates intelligence at the WAN edge to identify traffic patterns or bottlenecks and direct applications and services along paths that support their unique performance and security requirements.

VITA has commenced an initiative to implement SD-WAN capability for every executive branch agency. This project launched in October 2022 and is expected to run through 2023. SD-WAN implementation to all executive branch agencies, along with a broadband circuit or other connection, is expected to increase bandwidth throughout the Commonwealth 1000%. SD-WAN offers several benefits to its customer agencies. It improves application reliability, capacity, maintains network security without sacrificing performance or security.

As SD-WAN is being rolled out, agencies will need funding to take advantage of the capability and to order the broadband circuits or other connections that SD-WAN enables network traffic to leverage. As the project moves forward, it may identify locations where construction costs may be required to provide modern circuits to an agency facility.

## **DENSE WAVE DIVISION MULTIPLEXING**

Dense wavelength-division multiplexing (DWDM) is an optical fiber multiplexing technology that allows different data streams to be sent over a single fiber optic network. DWDM is used to increase the bandwidth of fiber networks, improve productivity, and enhance the customer experience. DWDM replaces older synchronous optical networking (SONET) technology. VITA has been working to implement DWDM and expects to do so within the next few months as supply chain shortages resolve.

## **WEB APPLICATION FIREWALLS**

Web application firewalls (WAFs) are specifically designed to protect web servers, applications, and underlying databases from many different types of threats. VITA has stood up a WAF service to protect Commonwealth websites. Some of the most devastating breaches occur by way of compromising publicly exposed websites and web servers. Public facing, cloud-based websites have been placed behind protective WAFs, and VITA provides this as a service for websites hosted on VITA data centers.

## **GLOBAL MULTIFACTOR AUTHENTICATION**

VITA is in the process of piloting multifactor authentication (MFA) for all users. Several years ago, VITA began requiring MFA for remote access, which resulted in a substantial decrease in stolen credentials being used to log into web portals such as emails. The selected MFA product also offers flexibility on what the second factor may be such as SMS/texts, voice calls, hard tokens, or security questions. The solution will integrate with single sign to help relieve the burden of users needing to remember passwords for multiple applications. For agencies needing to meet payment card industry (PCI) and Health Insurance Portability and Accountability Act (HIPAA) standards, the move to MFA also assists them with compliance to those regulations.

## **SECURE ACCESS SERVICE EDGE (SASE)**

To address the evolution in networking and security requirements, a new architecture known as the secure access service edge (SASE, pronounced “sassy”) has become a common model. SASE solutions converge networking and security services into one unified, cloud-delivered solution. Many of the initiatives already mentioned including SD-WAN, Prisma GlobalProtect, WAF, and MFA are technology components of SASE. With SASE, the same security practices applied to users in the office (on-premise) are applied to those users who are working remotely. Over the next several years, the VITA-initiated SASE projects will expand across the Commonwealth agency and user base to provide a greater level of security and user experience.

## **FUTURE SERVICES**

The Commonwealth's hybrid cloud security posture can improve through a zero-trust environment as applications and services are increasingly migrated to the cloud. Benefits include a reduction of cyber risk by reducing the network attack surface, as well as operational efficiencies for policy management. This secure solution will protect the Commonwealth's IT, and zero trust will bring best practices in security and architecture to the Commonwealth's network.

VITA is improving its current cloud-based virtual desktop service. VITAs second generation virtual desktop infrastructure (VDI) service enables authorized remote workers to use any device on the planet securely. VDI is a technology that refers to the use of virtual servers/machines to provide and manage virtual desktop. VDI hosts desktop environments on a centralized server and deploys them to end users upon request via secure internet networking. The proposed service improves application security and life cycle management; increases mobility for end users (deploy, maintain, and update virtualized applications for increased portability); and supports bring-your-own-PC (BYOPC). The cloud-hosted service also reduces per-user costs compared to the first generation VDI by enabling multiple users to share fewer computing resources. The new VDI service is projected to be available in the early fourth quarter of 2022.

## **NETWORK TROUBLESHOOTING**

### **NETWORK MONITORING**

VITA is implementing a network troubleshooting tool, autonomous digital experience management (ADEM) to provide end-to-end visibility and performance metrics for real application traffic in the secure access service (SASE) environment. The tool will be rolled out after the Prisma roll out, as it takes advantage of the client deployed. The ADEM service enables synthetic tests for applications from the endpoint, SD-WAN device, and deployed Prisma access locations in the environment. ADEM continuously monitors every segment in the delivery path and provides insights that help to quickly isolate the segment causing digital experience problems and simplify remediation.

Combined with the aforementioned tool, VITA has been working diligently to provide a tool that will give agencies visibility into the entire ecosystem of network infrastructure that is utilized to deliver IT services for each agency. VITA is in the process of completing roll out of internal networking monitoring tool LiveNX by adding more data for analysis and making it available to its

agency customers. LiveNX allows agencies to have a network visibility and monitoring tool to highlight how their agency's network is performing, how much bandwidth is being consumed, and how applications are being utilized and performing. The combination of the tools will enable an internal and external view of the customer network experience.

Understanding that all network issues are not necessarily network related, VITA is piloting application monitoring and diagnostic tools too. Working with agencies such as DMV, the tool is enabling an insightful view of application performance.

## **ENDPOINT SECURITY SOFTWARE REPLACEMENT**

VITA has completed migration to the new endpoint security tool. VITA and suppliers identified older, inefficient endpoint security software (from McAfee) installed on PCs throughout the enterprise as a contributing factor to performance problems. A new product was identified that continues to meet the need for host intrusion protection, firewall, and antivirus security, while improving security services through artificial intelligence enabled solutions. More pertinent to this network report, however, the new solution delivers that improved security with substantially better performance.

## **IMPROVED NETWORK AND SOFTWARE SETTINGS**

In addition, to ensure security profiles are properly maintained, the system center configuration manager (SCCM) client allows software updates to reach PCs that are not reporting in. The SCCM client health check is a continuous process. It will re-try several times to reach the PC throughout the day until successful. This gives users a better chance of working while connected to the multi-protocol label switching (MPLS), which routes traffic using the shortest path, minimizing disruptions to their work.

## **UPGRADES AND ASSOCIATED INVESTMENTS NEEDED**

### **COMPLETING DEPLOYMENT OF NEW SERVICES**

Services described above will improve the reliability and performance of the Commonwealth's network. Funding secured to date for these services has enabled their development and piloting. Additional investment is needed to complete their rollout across the enterprise.

Because the enterprise roll out of SD-WAN is about to kick-off, the network connections available at each agency site must be determined and then implemented. Thus, agency cost of broadband, MPLS circuit addition, or wireless installation is not known and will be detailed, as this project addresses every agency. As mentioned, construction costs may be identified for those locations where service is not currently available.

### **MODERNIZING VITA'S SECONDARY DATA CENTER**

The Commonwealth's secondary data center has recently migrated to its new location enabling the ability to enhance services. Since before the multisupplier model, disaster recovery services also have been focused on an all-or-nothing failover, rather than on providing high availability capabilities that are coordinated with the Commonwealth's current usage of cloud-based

services. VITA is working with its service providers suppliers to identify specific needs of supporting production workloads and high availability services, cyber resiliency, and cloud enabled-disaster recovery services. VITA currently estimates the enhanced recurring disaster recovery services carrying a cost of \$3 million annually above current levels.

## UPGRADING NETWORK CIRCUITS FOR AGENCY SITES

Investment to date has enabled capacity and technology upgrades for the core of the Commonwealth's network, including the downtown Capitol Square "campus." Funding upgrades of congested network circuits serving other agency sites remains an investment need, however.

Having completed the network equipment modernization project, Verizon and VITA have been able to provide regular, monthly network bandwidth utilization reports to agencies. (A view of the most recent available report is included as an appendix to this report.) These reports detail network utilization by site and network circuit, showing which circuits are oversaturated. These reports also compare the size of circuits to VITA's recommended network bandwidth standard of 400 kilobits per second (Kbps) per connected user. This recommendation will evolve and grow as the nature of Commonwealth work becomes more data driven and users require more multi-media experiences such as webinars, virtual meetings, and online training.

Where network circuit utilization is showing oversaturation, and where current circuit size does not meet VITA's recommended network bandwidth per user standard, VITA recommends upgrading to reduce congestion and to meet the standard. As stated, VITA is implementing SD-WAN at every agency to take advantage of broadband circuit costs when compared to MPLS circuits. As stated, as each agency and location are evaluated for bandwidth upgrade, the agency will be able to choose from broadband, MPLS, or wireless upgrades. Some agencies may need construction funding in order to provide service to specific locations.

VITA's goal is to upgrade bandwidth at all its serviced locations. The attached appendix shows circuit upgrades recently proposed to the Department of Planning and Budget.

## EXPANDING REDUNDANT NETWORKING

Redundant network connections provide multiple paths for traffic. This keeps an organization online and available in the event of a failure. Redundant network connections can boost performance through improved traffic routing and management. For critical sites identified to VITA, such as hospitals and traffic operations centers, VITA and agencies have already worked together to ensure redundant network connections. This is accomplished either by utilizing two or more circuits or through broadband backup to traditional circuits. Expanding the definition of critical sites might include:

1. Every agency headquarters, given that all agencies depend on the network for their business, and
2. Every site where agencies and members of the public interact in-person in a way that cannot be fully replaced by online transactions (Department of Motor Vehicles offices, for example).

VITA recommends agencies revisit the locations for which redundant network connections are

necessary and policymakers consider investing in expansion of redundant networking to ensure higher availability.

## **CONCLUSION**

VITA appreciates the opportunity to report on the Commonwealth of Virginia's network infrastructure. Support from policy makers allows VITA to maintain the Commonwealth's IT infrastructure, security, and providing technology services to all Virginians.

APPENDIX

**CIRCUIT UPGRADE PROPOSAL**  
**OCTOBER 2022**







	Agencies	Location Street, Location City	Current Speed	Existing		MPLS Upgrade		SD-WAN with Broadband		SD-WAN with Cradlepoint	
				--Original Calc --	Current port and access Monthly Recurring Charge (MRC) - Base Cost	FY23 Current Environment (MRC) - Base Cost	Proposed Port and Access	Base Cost + FY23 MPLS Upgrade Delta (MRC)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)	Base Cost + Upgraded Environment (MRC)
VSP	3601 IRON BRIDGE RD, RICHMOND	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	1765 ANDERSON HWY, POWHATAN	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	110 MILFORD ST, BOWLING GREEN	3 Mbps	\$886.00	\$884.82	E100	\$3,258.47	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	7411 AIRFIELD DR, RICHMOND	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	8440 BINGHAM RD, WARRENTON	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	16816 W JAMES ANDERSON HWY, BUCKINGHAM	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	1313 LOVERS GAP RD, VANSANT	6 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	868 BONHAM RD, BRISTOL	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	5290 BAGGING PLANT RD, DUBLIN	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	30010 CAMP PKWY, COURTLAND	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	30010 CAMP PKWY, COURTLAND	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	702 HANGER RD, LYNCHBURG	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	1557 S MILITARY HWY, CHESAPEAKE	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	1557 S MILITARY HWY, CHESAPEAKE	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	1426 COLUMBIA PIKE, ARLINGTON	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	18337 LEE HWY, ABINGDON	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	874 BLUE RIDGE AVE, BEDFORD	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	14420 INDEPENDENT HILL DR, MANASSAS	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	2900 PRUDEN BLVD, SUFFOLK	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	1875 RIDGE RD, BLACKSTONE	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	9201 ARBORETUM PKWY, NORTH CHESTERFIELD	30 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VSP	4890 ALLIANCE DR, FAIRFAX	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	4890 ALLIANCE DR, FAIRFAX	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VSP	176 CHURCH, JONESVILLE	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
TAX	600 E MAIN ST, RICHMOND	155 Mbps	\$14,443.00	\$14,443.09	S450	\$1,175.49	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
TAX	1957 WESTMORELAND ST, RICHMOND	300 Mbps	\$6,897.00	\$6,896.85	E600	\$3,311.59	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DHCD	468 E MAIN ST, ABINGDON	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DOLI	1570 E PARHAM RD, HENRICO	150 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DOLI	210 LEE HWY, VERONA	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DOLI	468 E MAIN ST, ABINGDON	1,000 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DOLI	10515 BATTLEVIEW PKWY, MANASSAS	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DOLI	6363 CENTER DR, NORFOLK	1,000 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DOLI	3013 PETERS CREEK RD NW, ROANOKE	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VEC	106 N MAPLE AVE, COVINGTON	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VEC	3125 ODD FELLOWS RD, LYNCHBURG	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VEC	1725 PARK AVE SW, NORTON	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VEC	200 BOB MORRISON BLVD, BRISTOL	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VEC	600 BUTLER FARM RD, HAMPTON	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VEC	1076 JEFFERSON HWY, STAUNTON	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VEC	5520 CHEROKEE AVE, ALEXANDRIA	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VEC	25036 LANKFORD HWY, ONLEY	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
VEC	740 THIMBLE SHOALS BLVD, NEWPORT NEWS	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	











	Agencies	Location Street, Location City	Current Speed	Existing		MPLS Upgrade		SD-WAN with Broadband		SD-WAN with Cradlepoint	
				--Original Calc --	Current port and access Monthly Recurring Charge (MRC) - Base Cost	FY23 Current Environment (MRC) - Base Cost	Proposed Port and Access	Base Cost + FY23 MPLS Upgrade Delta (MRC)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)	Base Cost + Upgraded Environment (MRC)
VDOT	120 STATE SHED LN, GALAX		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	157 KLONDIKE RD, INDEPENDENCE		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	244 CONSTITUTION LN, LYNCHBURG		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1062 GREENHOUSE RD, RUSTBURG		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	408 CAMP NINE RD, RUSTBURG		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	3915 S LEE HWY, NATURAL BRIDGE		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1382 MOUNT OLIVE RD, TOMS BROOK		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	4900 OLD VALLEY PIKE, NEW MARKET		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	164 PATTERSON MILL LN, CROZET		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	200 JUBAL EARLY HWY, WIRTZ		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1956 THE TRAIL, SAINT STEPHENS CHURCH		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1897 FRIEDENS CHURCH RD, MOUNT CRAWFORD		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	187 SPRAKER RD, CROCKETT		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	150 STATE SHEDS RD, FANCY GAP		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	729 MATSON DR, MARION		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	5507 THOMAS JEFFERSON RD, FOREST		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	590 UNION HILL RD, AMHERST		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	154 SHOP RD, CHILHOWIE		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	4171 AIRPORT RD, HILLSVILLE		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	12526 NICKELSVILLE HWY, NICKELSVILLE		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	4162 PURCHASE RIDGE RD, DUFFIELD		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1572 RADFORD CHURCH RD, MONETA		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	9495 REEDY CREEK RD, BRISTOL		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	2580 GOOSE DAM RD, ROCKY MOUNT		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	5910 MCGUIN DR, ALEXANDRIA		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	8278 HIDEAWAY RD, MARSHALL		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	268 STATE DR, TROUTVILLE		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	8159 MEETZE RD, WARRENTON		4.6 Mbps	\$1,512.00	\$1,510.65	E100	\$2,632.64	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	22025 ST LOUIS RD, MIDDLEBURG		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	233 CAMP 5 RD NW, WILLIS		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	14381 ENTERPRISE RD, ABINGDON		6.1 Mbps	\$1,857.00	\$1,855.14	E100	\$2,288.15	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	3288 TROUTDALE HWY, MOUTH OF WILSON		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	3 WEAVER RD, AMISSVILLE		1,000 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
VDOT	5375 NORTHFORK RD, ELLISTON		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	100 DOUGLAS LN, PEARISBURG		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	339 STATE SHED RD, STUART		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	301 FAIRFAX PIKE, STEPHENS CITY		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	7204 INDIAN CREEK RD, WISE		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	3701 DUNGANNON RD, COEBURN		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1929 TATE SPRINGS RD, BIG STONE GAP		1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1601 ORANGE RD, CULPEPER		300 Mbps	\$6,897.00	\$6,896.85	E600	\$3,311.59	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	131 LEWIS HEIGHTS RD, DRYDEN		10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50



	Location Street, Location City	Current Speed	Existing		MPLS Upgrade		SD-WAN with Broadband		SD-WAN with Cradlepoint	
			--Original Calc -- Current port and access Monthly Recurring Charge (MRC) - Base Cost	FY23 Current Environment (MRC) - Base Cost	Proposed Port and Access	Base Cost + FY23 MPLS Upgrade Delta (MRC)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)
VDOT	41 LAWSON RD SE, LEESBURG	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	8011 MASON KING CT, MANASSAS	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	87 DEACON RD, FREDERICKSBURG	300 Mbps	\$6,897.00	\$6,896.85	E600	\$3,311.59	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1426 COLUMBIA PIKE, ARLINGTON	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1960 W LEE HWY, WYTHEVILLE	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	703 HURRICANE RD NE, WISE	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	530 EDGEWERMONT RD, CHARLOTTESVILLE	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	2843 CHAPMAN RD, WYTHEVILLE	44 Mbps	\$13,606.00	\$4,653.58	OC3	\$10,711.82	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	870 BONHAM RD, BRISTOL	300 Mbps	\$6,897.00	\$6,896.85	E600	\$3,311.59	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1013 W ATLANTIC ST, SOUTH HILL	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	331 FERGUSON ST, APPOMATTOX	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	2201 W HUNDRED RD, CHESTER	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	239 STATE ST, ROCKY MOUNT	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	6200 ELKO TRACT RD, SANDSTON	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	2275 NORTHWESTERN PIKE, WINCHESTER	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	523 N WASHINGTON HWY, ASHLAND	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	3536 N VALLEY PIKE, HARRISONBURG	44 Mbps	\$13,606.00	\$4,653.58	OC3	\$10,711.82	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	14031 OLD VALLEY PIKE, EDINBURG	44 Mbps	\$13,606.00	\$4,653.58	OC3	\$10,711.82	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	192 LAUREL HILL RD, VERONA	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	551 MECHANIC ST, LURAY	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	5211 HALIFAX RD, HALIFAX	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	4219 CAMPBELL AVE, LYNCHBURG	300 Mbps	\$6,897.00	\$6,896.85	E600	\$3,311.59	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	3400 ROSNEY RD, DILLWYN	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	13257 FREDERICKSBURG TPKE, WOODFORD	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	2022 E LYNCHBURG SALEM TPKE, BEDFORD	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	2430 PINE FOREST DR, COLONIAL HEIGHTS	300 Mbps	\$6,897.00	\$6,896.85	E600	\$3,311.59	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	2430 PINE FOREST DR, COLONIAL HEIGHTS	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	714 S BROAD ST, SALEM	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	8111 COMMERCE RD, STAUNTON	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	105 CAMBRIA ST NW, CHRISTIANSBURG	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	970 REON DR, VIRGINIA BEACH	6.1 Mbps	\$1,857.00	\$1,855.14	E100	\$2,288.15	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	970 REON DR, VIRGINIA BEACH	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	7051 GENERAL MAHONE HWY, WAVERLY	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	239 VIRGINIA ST, HILLSVILLE	44 Mbps	\$13,606.00	\$4,653.58	OC3	\$10,711.82	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	309 WEEPING WILLOW LN, BASSETT	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	23096 COURTHOUSE AVE, ACCOMAC	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	204 NATIONAL AVE, HAMPTON	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	731 HARRISON AVE, SALEM	300 Mbps	\$6,897.00	\$6,896.85	E600	\$3,311.59	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1992 S MILITARY HWY, CHESAPEAKE	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	14900 MURDOCK ST, CHANTILLY	6 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	523 MAIN ST, WARSAW	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1363 GEORGE WASHINGTON MEMORIAL HWY, GLOUCESTER	6.1 Mbps	\$1,857.00	\$1,855.14	E100	\$2,288.15	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50

	Location Street, Location City	Current Speed	Existing		MPLS Upgrade		SD-WAN with Broadband		SD-WAN with Cradlepoint	
			--Original Calc --	Current port and access Monthly Recurring Charge (MRC) - Base Cost	FY23 Current Environment (MRC) - Base Cost	Proposed Port and Access	Base Cost + FY23 MPLS Upgrade Delta (MRC)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)	Base Cost + Upgraded Environment (MRC)
VDOT	34 JEFFERSON AVE, NEWPORT NEWS	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	152 TUNNEL FACILITY DR, PORTSMOUTH	6.1 Mbps	\$1,857.00	\$1,855.14	E100	\$2,288.15	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	4720 WEST OX RD, FAIRFAX	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1596 DEBORAH LN, SALEM	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	4975 ALLIANCE DR, FAIRFAX	300 Mbps	\$6,897.00	\$6,896.85	E600	\$3,311.59	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	275 ALPHIN LN, LEXINGTON	45 Mbps	\$13,606.00	\$4,653.58	E100	-\$510.29	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	23116 MEHERRIN RD, COURTLAND	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	4330 THIRLANE RD NW, ROANOKE	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	9700 BENT MOUNTAIN RD, BENT MOUNTAIN	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	251 APACHE RUN, MAX MEADOWS	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	34397 LEE HWY, GLADE SPRING	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	3995 HUNTERSTAND CT, CHARLOTTESVILLE	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	12122 APPLETON RD, IVOR	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
VDOT	10267 TELEGRAPH RD, ASHLAND	1,000 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
VDOT	950 E ATLANTIC ST, SOUTH HILL	1,000 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
VDOT	12600 FAIR LAKES CIR, FAIRFAX	1,000 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
VDOT	21671 AZEN RD, DAMASCUS	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1096 GOOSE CREEK VALLEY RD, MONTVALE	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	1142 MOUNT SOLON RD, MOUNT SOLON	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	11655 W JAMES ANDERSON HWY, BUCKINGHAM	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDOT	14831 LEE HWY, GAINESVILLE	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DRPT	1725 DUKE ST, ALEXANDRIA	4.6 Mbps	\$1,512.00	\$1,510.65	E100	\$2,632.64	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
MVDB	1111 E MAIN ST, RICHMOND	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	830 GOFF ST, NORFOLK	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	7740 SHRADER RD, HENRICO	1,000 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
VDH	2800 TARRANT ST, NORFOLK	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	490 LIBERTY ST, CHESAPEAKE	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	7501 ADKINS RD, CHARLES CITY	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	407 E MAIN ST, ABINGDON	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	12312 WASHINGTON HWY, ASHLAND	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	15068 LEE HWY, BRISTOL	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	205 PIEDMONT AVE, BRISTOL	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	227 S POLLARD ST, VINTON	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	105 E CALHOUN ST, SALEM	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	8097 KINGS HWY, KING GEORGE	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	600 BEDFORD AVE, BEDFORD	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	290 S 6TH ST, WYTHEVILLE	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	253 CHAMBERS DR, TAZEWELL	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	830 SOUTHAMPTON AVE, NORFOLK	4.6 Mbps	\$1,512.00	\$1,510.65	E100	\$2,632.64	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	1632 LAWRENCEVILLE PLANK RD, LAWRENCEVILLE	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	135 HALL AVE, SUFFOLK	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
VDH	100 CHURCH ST, MATHEWS	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50













	Agencies	Location Street, Location City	Current Speed	Existing	MPLS Upgrade	SD-WAN with Broadband	SD-WAN with Cradlepoint			
				--Original Calc -- Current port and access Monthly Recurring Charge (MRC) - Base Cost	FY23 Current Environment (MRC) - Base Cost	Proposed Port and Access	Base Cost + FY23 MPLS Upgrade Delta (MRC)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)	Base Cost + Upgraded Environment (MRC)
DSS	26022 ADMINISTRATION CENTER DR, COURTLAND	4.6 Mbps	\$1,512.00	\$1,510.65	E100	\$2,632.64	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	2405 COURTHOUSE DR, VIRGINIA BEACH	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	3174 SLATE CREEK RD, GRUNDY	6.1 Mbps	\$1,857.00	\$1,855.14	E100	\$2,288.15	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	105 E CENTER ST, GALAX	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	605 PINE ST, HILLSVILLE	4.6 Mbps	\$1,512.00	\$1,510.65	E100	\$2,632.64	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	71 COMMUNITY CENTER DR, CUMBERLAND	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	4301 E PARHAM RD, HENRICO	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	6060 JEFFERSON AVE, NEWPORT NEWS	4.6 Mbps	\$1,512.00	\$1,510.65	E100	\$2,632.64	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	6730 PUBLIC SAFETY RD, CHESTERFIELD	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	146 MADISON RD, ORANGE	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	18849 KINGS HWY, MONTROSS	4.6 Mbps	\$1,512.00	\$1,510.65	E100	\$2,632.64	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	16360 DUNN ST, AMELIA COURT HOUSE	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	14010 BOYDTON PLANK RD, DINWIDDIE	4.6 Mbps	\$1,512.00	\$1,510.65	E100	\$2,632.64	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	17202 RICHMOND TPKE, MILFORD	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	68 DICK HUFF LN, VERONA	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	400 GRANBY ST, NORFOLK	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	1001 SAM PERRY BLVD, FREDERICKSBURG	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	928 W MAIN ST, RADFORD	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	311 E MAIN ST, BERRYVILLE	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	1701 HIGH ST, PORTSMOUTH	44 Mbps	\$13,606.00	\$4,653.58	OC3	\$10,711.82	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	644 PARK AVE NW, NORTON	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	20 E GAY ST, HARRISONBURG	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	120 E COURT ST, ROCKY MOUNT	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DSS	609 CEDAR CREEK GRADE, WINCHESTER	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	9990 FAIRFAX BLVD, FAIRFAX	6.1 Mbps	\$1,857.00	\$1,855.14	E100	\$2,288.15	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	900 E BROAD ST, RICHMOND	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DSS	420 N CENTER DR, NORFOLK	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	2211 HYDRAULIC RD, CHARLOTTESVILLE	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	21641 RIDGETOP CIR, STERLING	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	1280 BROWNING HOLW, CLINTWOOD	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DSS	45201 RESEARCH PL, ASHBURN	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	4100 HULL STREET RD, RICHMOND	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	9127 WASHINGTON ST, AMELIA COURT HOUSE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	1600 OLIVER HILL WAY, RICHMOND	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	14008 BOYDTON PLANK RD, DINWIDDIE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	200 N SYCAMORE ST, PETERSBURG	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	328 W COURTHOUSE RD, CREWE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	6450 ADMINISTRATION DR, PRINCE GEORGE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	401 S MAIN ST, EMPORIA	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	1020 PRETLOW ST, FRANKLIN	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	17000 JOSIAH PARKER CIR, WINDSOR	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	101 S WEST ST, CULPEPER	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50

		Current Speed	Existing		MPLS Upgrade		SD-WAN with Broadband		SD-WAN with Cradlepoint	
			--Original Calc --	Current port and access Monthly Recurring Charge (MRC) - Base Cost	FY23 Current Environment (MRC) - Base Cost	Proposed Port and Access	Base Cost + FY23 MPLS Upgrade Delta (MRC)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)	Base Cost + Upgraded Environment (MRC)
DJJ	100 E BROADWAY AVE, HOPEWELL	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	150 N MAIN ST, SUFFOLK	1 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	7400 JUSTICE DR, GLOUCESTER	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	41 HORSE LANDING RD, KING WILLIAM	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	12025 COURTHOUSE CIR, NEW KENT	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	300 BALLARD ST, YORKTOWN	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	1245 COURTHOUSE RD, STAFFORD	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	9125 COURTHOUSE RD, SPOTSYLVANIA	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	7530 COUNTY COMPLEX RD, HANOVER	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	4093 IRONBOUND RD, WILLIAMSBURG	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	5575 RICHMOND RD, WARSAW	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	110 N MADISON RD, ORANGE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	615 PRINCESS ANNE ST, FREDERICKSBURG	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	830 GOFF ST, NORFOLK	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	5900 E VIRGINIA BEACH BLVD, NORFOLK	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	1500 E LITTLE CREEK RD, NORFOLK	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	407 E HIGH ST, CHARLOTTESVILLE	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	123 E MAIN ST, BEDFORD	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	113 TAYLOR ST, AMHERST	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	5 BANK ST, CHATHAM	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	266 W MAIN ST, COVINGTON	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	106 RUCKER ST, STUART	10 Mbps	\$1,159.00	\$1,159.97	E100	\$2,983.32	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	55 W CHURCH ST, MARTINSVILLE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	3160 KINGS MOUNTAIN RD, MARTINSVILLE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	911 MADISON ST, BOYDTON	3 Mbps	\$886.00	\$884.82	E100	\$3,258.47	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	2600 WASHINGTON AVE, NEWPORT NEWS	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	64 COURT HOUSE LN, RUSTBURG	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	909 COURT ST, LYNCHBURG	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	400 E MAIN ST, SALEM	3 Mbps	\$886.00	\$884.82	E100	\$3,258.47	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	401 PATTON ST, DANVILLE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	150 SAINT PAULS BLVD, NORFOLK	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	5215 THE HORNES, CAPE CHARLES	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	15950 SINDLINGER WAY, WOODBRIDGE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	53 COURT SQ, HARRISONBURG	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	23371 FRONT ST, ACCOMAC	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	275 S MAIN ST, ROCKY MOUNT	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	215 MILL RD, WOODSTOCK	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	26 WINE ST, HAMPTON	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	9540 CENTER ST, MANASSAS	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
DJJ	1 E MAIN ST, FRONT ROYAL	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	116 S COURT ST, LURAY	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50
DJJ	368 DESHAZOR DR, NEWPORT NEWS	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50







	Agencies	Location Street, Location City	Current Speed	Existing		Proposed Port and Access	MPLS Upgrade	SD-WAN with Broadband		SD-WAN with Cradlepoint	
				--Original Calc --	Current port and access Monthly Recurring Charge (MRC) - Base Cost		FY23 Current Environment (MRC) - Base Cost	Base Cost + FY23 MPLS Upgrade Delta (MRC)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)	Base Cost + Upgraded Environment (MRC)
DOC	329 DELBROOK LN, INDEPENDENCE	44 Mbps	\$13,606.00	\$4,653.58	OC3	\$10,711.82	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	1213 E CLAY ST, RICHMOND	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	401 N WASHINGTON AVE, PULASKI	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	103 E CENTER ST, GALAX	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	5511 BIGGS RD, RICHMOND	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	1600 N COALTER ST, STAUNTON	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	960 PRISON RD, BOYDTON	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	70 E 1ST ST, CHRISTIANSBURG	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	2520 NIMMO PKWY, VIRGINIA BEACH	44 Mbps	\$13,606.00	\$4,653.58	OC3	\$10,711.82	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	206 E MAIN ST, WISE	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	401 N 11TH ST, RICHMOND	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	603 GATE CITY HWY, BRISTOL	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	3700 BEAUMONT RD, BEAUMONT	100 Mbps	\$3,953.00	\$3,951.98	E300	\$3,136.18	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	137 FUGATE ST, DUFFIELD	4 Mbps	\$916.00	\$915.38	E100	\$3,227.91	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOC	178 MORISON DR, MARION	150 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DOC	1001 E LEIGH ST, RICHMOND	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DOAV	5702 GULFSTREAM RD, RICHMOND	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DVS	1601 BROAD ROCK BLVD, RICHMOND	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DVS	4550 SHENANDOAH AVE NW, ROANOKE	100 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DVS	108 N JEFFERSON ST, ROANOKE	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DVS	10300 PRIDESVILLE RD, AMELIA COURT HOUSE	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DVS	6350 CENTER DR, NORFOLK	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
VMNH	21 STARLING AVE, MARTINSVILLE	10 Mbps	\$0.00	\$0.00	E100	\$4,143.29	\$ 941.31	\$ 500.00	\$ 124.78	\$ 1,116.50	
DFP	1005 TECHNOLOGY PARK DR, GLEN ALLEN	20 Mbps	\$1,448.00	\$1,447.71	E100	\$2,695.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DFP	471 JAMES MADISON HWY, CULPEPER	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DFP	3003 PETERS CREEK RD NW, ROANOKE	2 Mbps	\$837.00	\$836.26	E100	\$3,307.03	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DFP	225 STATE ST, MARION	3 Mbps	\$886.00	\$884.82	E100	\$3,258.47	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
DFP	124 N SOUTH ST, FARMVILLE	1.5 Mbps	\$504.00	\$503.55	E100	\$3,639.74	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
Multi - 5136 Allocation Pool	1111 E BROAD ST, RICHMOND	500 Mbps	\$9,100.00	\$9,099.89	E1000	\$4,129.80	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
Multi - 5136 Allocation Pool	600 E MAIN ST, RICHMOND	300 Mbps	\$21,362.00	\$21,362.34	S600	-\$3,166.97	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
Multi - 5136 Allocation Pool	9960 MAYLAND DR, HENRICO	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
Multi - 5136 Allocation Pool	9960 MAYLAND DR, HENRICO	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
Multi - 5136 Allocation Pool	2100 WASHINGTON BLVD, ARLINGTON	3.1 Mbps	\$1,008.00	\$1,007.10	E100	\$3,136.19	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
Multi - 5136 Allocation Pool	900 NATURAL RESOURCES DR, CHARLOTTESVILLE	50 Mbps	\$2,231.00	\$2,230.01	E100	\$1,913.28	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	
Multi - 5136 Allocation Pool	10304 SPOTSYLVANIA AVE, FREDERICKSBURG	44 Mbps	\$13,606.00	\$4,653.58	OC3	\$10,711.82	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50	

	Location Street, Location City	Current Speed	Existing		MPLS Upgrade		SD-WAN with Broadband		SD-WAN with Cradlepoint	
			--Original Calc -- Current port and access Monthly Recurring Charge (MRC) - Base Cost	FY23 Current Environment (MRC) - Base Cost	Proposed Port and Access	Base Cost + FY23 MPLS Upgrade Delta (MRC)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)	Base Cost + Upgraded Environment (MRC)	Upgraded Environment (one-time setup charge)
Agencies	2001 MAYWILL ST, RICHMOND Allocation Pool	44 Mbps	\$13,606.00	\$4,653.58	E300	\$2,434.58	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50
FREDERICKS	9801 BRADDOCK RD, FAIRFAX	5 Mbps	\$967.00	\$965.74	E100	\$3,177.55	\$ 1,483.69	\$ 1,616.50	\$ 667.16	\$ 1,116.50